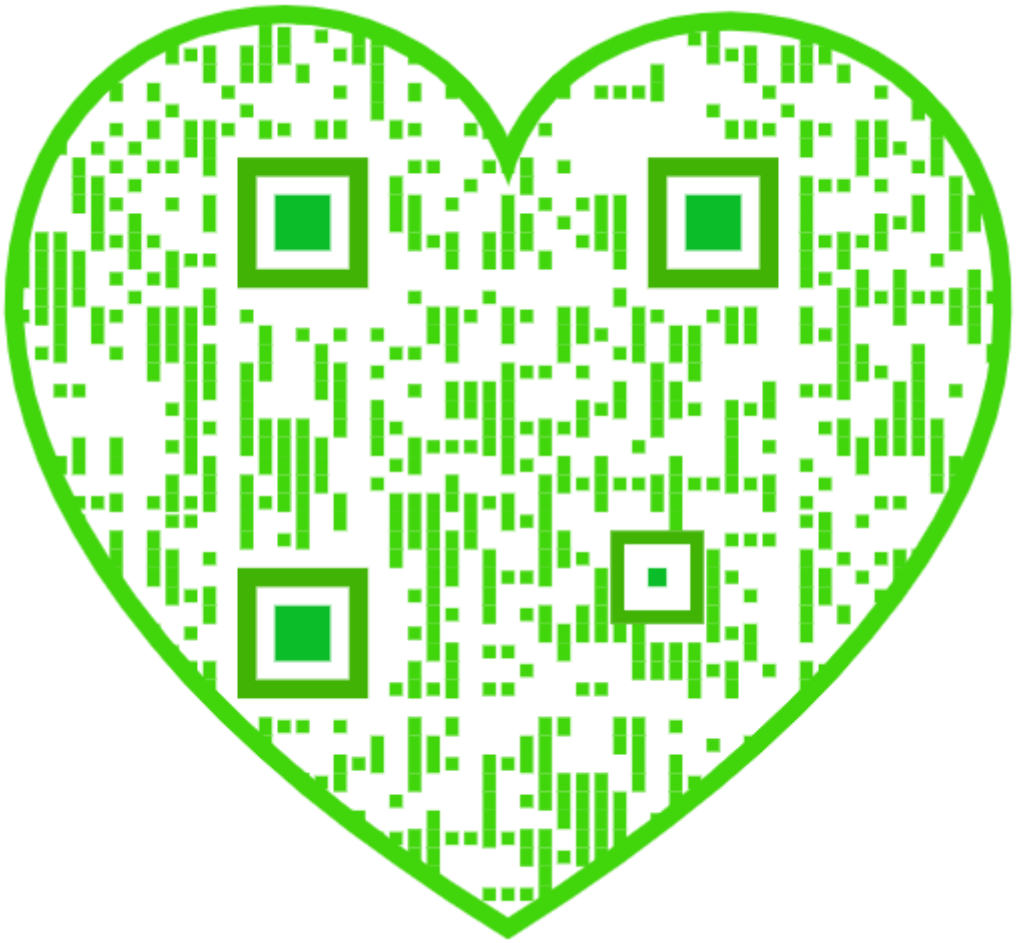

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Who's Who in this Issue

REGINALD D. JOHNSON, whose work is illustrated in this number, is one of the foremost architects in America. He is a past president of the Southern California chapter and a Fellow of the American Institute of Architects. His successful career is not only proved by the many handsome buildings he has erected, but also by awards he has received from the organizations of his profession. With the opening of the Santa Barbara Biltmore Hotel in December of last year, he was awarded a medal by the Architectural League of New York City for the excellency of his work. This organization awards three medals each year for the three outstanding architectural achievements. This was the first time an award had been made by this group to an architect on the Pacific Coast.

Mr. Johnson, whose father is the Right Reverend Joseph Johnson, Bishop of the Episcopal Church of Southern California, has been a resident of California since his early youth and spent many of his boyhood summers in the charming environment of Santa Barbara and Montecito.

After graduating from the Massachusetts Institute of Technology, where he received a degree in architecture, he traveled abroad for several years and studied architecture in Paris. For many years he has been one of Southern California's foremost residence architects and has been a pioneer in the development of a style which would be a portrayal of simplified domestic charm and also be reminiscent of early life in California. His work is characterized by large openings, beautifully proportioned, and clear detail of a straight-forward and scholarly style, as has been carried out so happily in the Santa Barbara Biltmore. In 1921 he received the gold medal from the American Institute of Architects for meritorious work in domestic architecture in the United States. Mr. Johnson's work has been widely featured editorially and pictorially by the foremost architectural publications in the country, and is nationally recognized as being exemplary in the first developments of architecture in Southern California.

HERMAN BROOKMAN, Yeon Building, Portland, Oregon, whose lovely Lloyd Frank house is pictured elsewhere in this issue, received his early architectural training in the office of Harrie T. Lindeberg of New York, having been associated with Mr. Lindeberg for practically fifteen years. This was followed by independent practice for the past six years and during that period Mr. Brookman has designed many prominent semi-public, commercial and industrial buildings in the state of Oregon. He was one of the architects of the beautiful synagogue recently completed in Portland, Oregon. His work has also included several notable residences and country estates. Mr. Brookman has traveled abroad where he studied his profession. He is a member of the American Institute of Architects.

ELMER GREY, who writes of the work of Mr. Johnson in this number, entered an architect's office in Milwaukee at the age of sixteen and remained with the same firm twelve years during which time he took several trips abroad, traveling by bicycle. Returning to the United States Mr. Grey opened an office of his own in Milwaukee where he practiced three years. The degree of Fellow in the American Institute of Architects was conferred upon him when he was thirty years of age. Upon his health breaking down he came to California where he worked for a time on a ranch in what is now the heart of Hollywood. About this time he was appointed on the Art Committee of the St. Louis Exposition. Soon after Mr. Grey became associated with Myron Hunt, architect in Los Angeles. This combination continued for six years during which time the firm executed a great deal of important work. Since their dissolution Mr. Grey has designed such notable structures as the Chemistry Building of the California Institute of Technology, Los Angeles, Christian Science churches in Los Angeles, Long Beach and Palo Alto, the Beverly Hills Hotel, Pasadena Community Playhouse and a number of fine residences. He is a painter in both oil and water colors, some of his water colors being in the permanent collection of the Chicago Art Institute. He has been a frequent contributor to such magazines as Scribner's, The Ladies Home Journal, Pictorial Review, Arts and Decoration and various architectural journals. Although not a college-bred man he is a member of the University Club of Los Angeles and at one time was on its Directorate.

JOHN E. DINWIDDIE, whose sketches appear in this issue in "The Playful Side of Architecture," was educated at the University of Michigan where he graduated in 1924. After a year's experience in Oakland he returned to college for a year's post graduate work under Eliel Saarinen, the eminent Finnish architect who was a visiting professor then at Michigan. Returning to San Francisco young Dinwiddie was with Bliss & Fairweather, architects, for eighteen months after which he went to New York where he was with York & Sawyer for a year. During his stay in New York he took up pencil sketching under Ernest Watson of Pratt Institute and the Watson influence is readily seen in his work. In the spring of 1927 Dinwiddie won the George A. Booth Travelling Fellowship of the University of Michigan which took him to Europe for a year where he made the sketches above referred to. From Europe he returned to San Francisco where he expects to reside permanently. He is now in the employ of Lewis P. Hobart. Young Dinwiddie is a son of William S. Dinwiddie, head of the Dinwiddie Construction Company, San Francisco.

HAROLD W. DOTY, who writes about the Lloyd Frank house in Portland, (briefly but eloquently) is familiar to readers of The Architect and Engineer as a contributor to "The Architect's Viewpoint," an editorial feature that has developed some surprisingly fine literary talent. Mr. Doty is practicing architecture in Portland, Oregon, where he is vice-president of the Oregon State Chapter, A. I. A.

C. O. CLAUSEN, whose interesting reminiscences of his travels abroad have been appearing in The Architect and Engineer for more than a year, is associated with F. Frederick Amandes in the practice of architecture in San Francisco, with offices in the Hearst building. This firm has designed quite a number of creditable apartment houses, theatres and residences. Mr. Clausen is prominent in Masonic circles and other organizations, and has grown up, so to speak, with the rebuilding of San Francisco.

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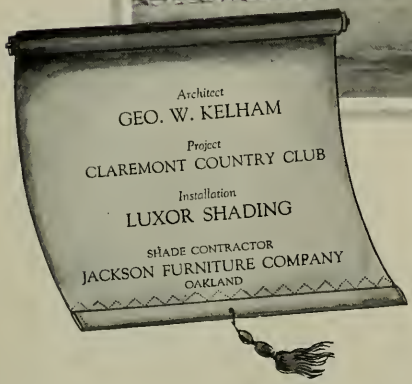

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Reginald D. Johnson, Architect

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SANTA BARBARA BILTMORE HOTEL
SANTA BARBARA, CALIFORNIA
REGINALD D. JOHNSON, ARCHITECT

The
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AND ENGINEER
April, 1929

The ARCHITECT AND ENGINEER

VOLUME XCVII APRIL, 1929 NUMBER ONE

The Work of: REGINALD D. JOHNSON F.A.I.A.

By Elmer Grey F.A.I.A.

IN order to properly appraise the work of Reginald D. Johnson, it would be well to review briefly some of the architectural history of Southern California. If we can look at that history as a whole and go into some of its recent aspects in detail, we can then better understand the part Mr. Johnson has played in it and the position he now holds with regard to it.

This is a worthwhile thing to do because his work, like that of other outstanding architects, is more than a personal matter; it has been and is a strong governing influence in the architectural development of California.

Southern California has, for very many years, been trying to find itself in the matter of architecture. It has been engaged, during all that time, in what might be called a struggle with style. The initial steps in the bout began with the building of the Missions. They were virile, but more or less crude, and as soon as attempts were made to adapt their style to the residences and public buildings of later comers to California it became evident that it would seldom do. As a permanent, pervasive influence therefore the "Mission style" did not last.

Then came the San Diego Exposition — Bertram Goodhue conceived the idea of doing that after motives derived from old Mexico—hence Spanish Colonial it was called. Immediately it met with a great wave of popular favor. Adapted to both residential and public work far and wide it flooded Southern California with a new urge, the so-called "Spanish"; and those archi-

tects who felt that our residential style problem had not yet been thoroughly solved by it were nevertheless borne along with the current.

It lent itself readily to unsymmetrical treatment, i. e., to a kind of irregular balance composed of dissimilar features; and when skillfully handled in that way often became very picturesque. Furthermore it carried with it a considerable flavor of romance, that of old Spain with its Dons, etc., and that of its relationship to the early settlement of California. So it had much in its favor. As so often happens with good things, however, it was seized upon by untrained imitators and done and overdone by them almost to death. They construed its adaptability to irregular treatment to mean that almost any arrangement of features would do. They took those which were good in themselves and effective when used in the right places and used them in wrong places. All sorts of fantastic combinations were strained at in the endeavor to do something new; and that cardinal principle of all good art, namely repose, was either forgotten or never known. Much was it as though the various motives of good examples had been disjointed, and then thrown together again in all sorts of haphazard ways. Thus was Southern California flooded with the restless, the weird and often the absurd in architecture. Many of our city streets and large sections of our countryside were marred in this way and many who had the instinct to dislike what was happening turned to the English or to some other style for the inspiration of their new homes.

HOUSE OF CURTIS W. CATE, CARPINTERIA, CALIFORNIA
Reginald D. Johnson, Architect

* * *

During all this time Mr. Johnson's work was a restraining influence. In his hands the "Spanish" became dignified and had lasting character. It never lacked interest

but it was a rebuke to the bizarre, the theatrical and the fantastic—and to the commonplace an inspiration toward something better. Usually, but not always, he treated the style in its symmetrical and hence more dignified aspects. His house in Montecito for Mr. Reginald Rieves is a fine example of this period of his work. It brought him the medal of the Southern California Chapter of the American Institute of Architects for the best house of the year 1918. In its design is to be seen a forerunner of what was to become more pronounced in his residential work later on, namely, provision for comfort and livableness primarily rather than strict adherence to the mannerisms of a foreign style. Its spacious balconies and pergolas, which command fine views are perhaps not to be found as adjuncts of any original Spanish houses.

The J. P. Jefferson house, made over from the former Montecito Country Club, is another fine example of this period, somewhat later in date. Its entrance facade is quiet and dignified as the front of a house should be, while its opposite side and garden are quite romantically disposed. The pool, in which has been placed an unusually beautiful bronze Bacchante by MacMonnies, stirs memories of the villas in the suburbs of Rome, and of the Borda gardens in Cuernavaca, Mexico. This house brought him the gold medal of the American Institute for the best residential work shown at the national exhibit in Washington, D. C. in 1921.

HOUSE OF CURTIS W. CATE, CARPINTERIA, CALIFORNIA
Reginald D. Johnson, Architect

Another Montecito house which is quite worthy of mention along with these is that of Mr. Edward Lowe. While very livable in plan, its rooms were also designed to house and form the background for much fine old furniture and it serves both purposes admirably. The plan takes ad-

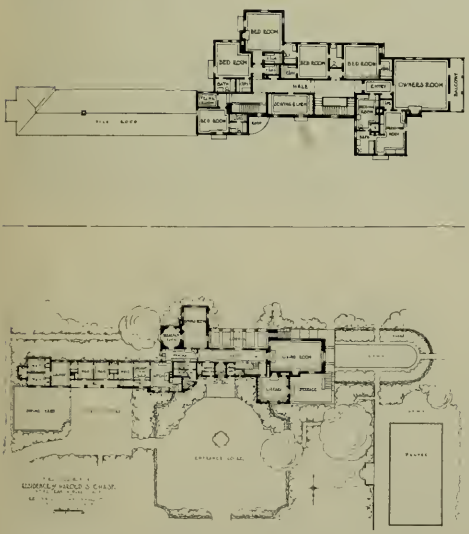
HOUSE OF CURTIS W. CATE, CARPINTERIA, CALIFORNIA
Reginald D. Johnson, Architect

vantage of some fine vistas out of doors, one from the garden room looking down one lovely axis of the garden, while those from the living room, dining room and hall command fine views of the mountains and look through intermingling boughs of live oaks down many feet below to a mountain stream which wends its way through the grounds. The treatment of the entrance side with its large fountain in the forecourt is decidedly reminiscent of foreign precedent, thus harmonizing with the atmosphere of the interior with its fine antiques collected from abroad.

Many people suppose that the ear-marks of a foreign style must be strictly adhered to in order to achieve purity in our own style. This is a misconception of what happens in the making of style. One might as well say that the Spaniards, because they derived some of their motives from Italy and others from the Moors ought to have conformed in all respects either to Italian

PLAN, HOUSE FOR CURTIS W. CATE

HOUSE OF HAROLD S. CHASE, HOPE RANCH, SANTA BARBARA
Reginald D. Johnson, Architect



PLANS, HOUSE FOR HAROLD S. CHASE

or Moorish precedent. If they had we should not now have any Spanish architecture. Purity of style comes not from strict adherence to precedent, but from a sensitive feeling for the harmonies that constitute good style. Just as the musician must feel his notes when he plays, or the painter his color when he paints, so must the architect feel his motives when he designs. Either he has sensitive feeling of this kind and so is an artist, or is without it and so is not. It is well enough to use precedent where it is appropriate and useful; in fact, it then often imparts much of romance and delightful foreign flavor; but where it is not useful, or is inappropriate to our present needs or habits of life, we should be quite as ready to drop it and adopt that which better fits our purposes. Mr. Johnson has been one of those architects who clearly recognized this and has had the courage to follow his convictions in the matter. He is

not therefore a purist in style so far as strict adherence to precedent is concerned, but of that fine feeling which is more essential than anything else in the making of a pure style he is distinctly possessed.

With growing dissatisfaction with the way the so-called Spanish style was so often being handled in Southern California the name of this evolving product was finally changed by some to "Mediterranean," and later on when the effects of that wore off to "Early Californian." True, these terms were intended to cover certain distinctions, but they were essentially misnomers just the same. For our so-called Mediterranean style is quite different from that to be found on the shores of the Mediterranean on account of their different ways of living there, and besides has been made here; while our "Early Californian," with its large window openings and touches of Colonial influence, has been so altered from the early Monterey prototypes that it has become one of the very latest things in residential style.

Perhaps a part of the public was responsible for this misnaming as much as anyone, for the former constantly ask what style certain new buildings are in, and often demand in their new homes that which is supposed to be the very last word.

The last word in architecture, however, is not secured by adopting something with a new name attached to it but by the choice of architect and manner of treatment. As Mr. Johnson has aptly said in this regard, "Why tag strange names on our architecture? Why not be proud of it as California achitecture?" And he as much as anyone else has contributed toward the making of that style which, in its various phases, is truly Californian and of which we may all well be proud.

Undoubtedly in Southern California

HOUSE OF HAROLD S. CHASE, HOPE RANCH PARK, SANTA BARBARA
Reginald D. Johnson, Architect

there are far more people of Anglo-Saxon origin than of Spanish. That we should sacrifice entirely the architectural atmosphere of the Anglo-Saxons then for that of our adopted country is hardly reasonable. That our architecture should be indicative of both surely seems proper. This, Mr. Johnson has long felt and for some time he has been trying to express it in his residential work. It is shown by his drifting away in his later work from the strictly Spanish feeling toward that which carries with it a flavor of the Colonial as well, particularly the Southern Colonial. One advantage of this drift is that such houses accept Colonial or English furniture more readily than do the strictly Spanish. During the last few years particularly he has been much interested in trying to develop the so-called Spanish type in ways that retain its romantic character, but in a modified and somewhat Colonial spirit. This hybridizing of style is thoroughly justifiable when skillfully done and for the same reason that I have said that the Spaniards were justified in hybridizing the Italian with the Moorish. Of course the mix could easily be carried too far, causing the building to appear as though it belonged in a New England or Louisiana landscape rather than in a Southern California one —but Mr. Johnson knows where to stop.

HOUSE OF HAROLD S. CHASE, HOPE RANCH PARK, SANTA BARBARA
Reginald D. Johnson, Architect

The last house he built for himself, the one built for his father, the late Bishop Johnson, and the one belonging to Mr. Harry Bauer, all in Pasadena, are fine examples of this trend of his work.

In a considerable number of cases the locations of Mr. Johnson's houses have been remarkably fine. No finer setting anywhere in the world for residence architecture can be found than that in the district around Santa Barbara known as Montecito and that known as the Hope Ranch. In

Photo by Padilla Company

HOUSE OF HAROLD S. CHASE, HOPE RANCH PARK, SANTA BARBARA

REGINALD D. JOHNSON, ARCHITECT

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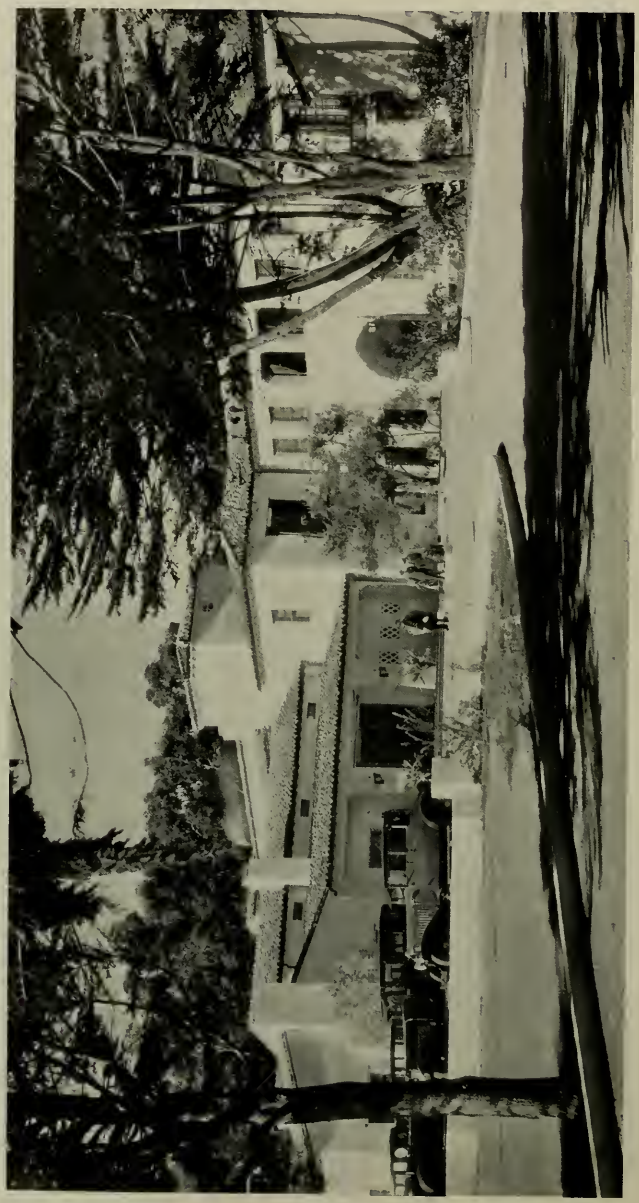
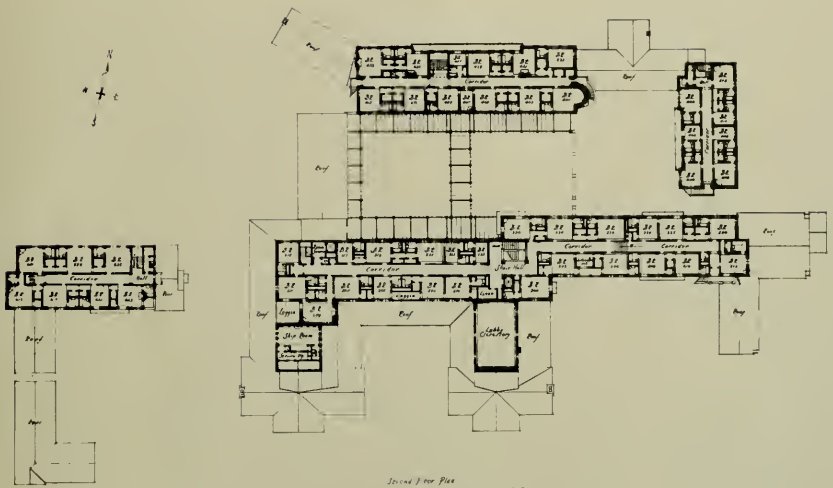
HOUSE OF HAROLD S. CHASE, HOPE RANCH PARK, SANTA BARBARA

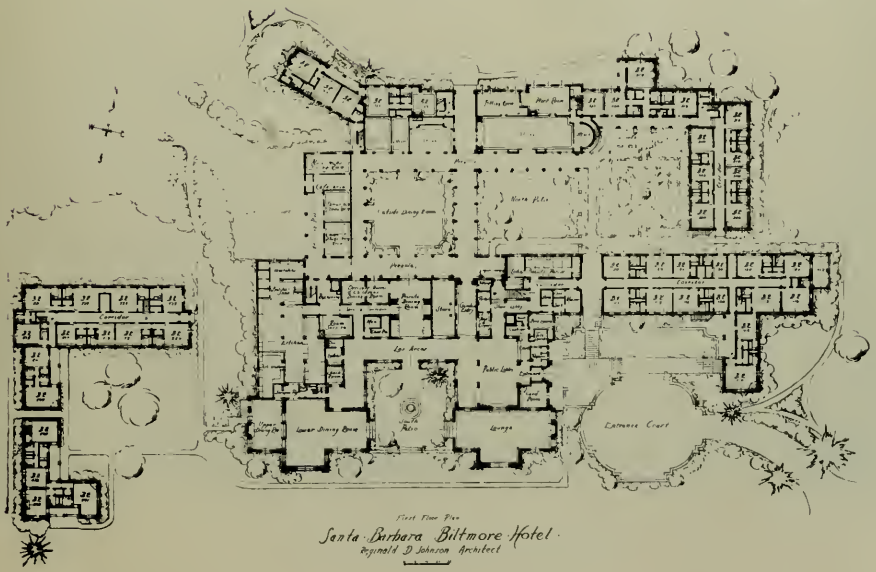
REGINALD D. JOHNSON, ARCHITECT



SANTA BARBARA BILTMORE HOTEL, SANTA BARBARA
REGINALD D. JOHNSON, ARCHITECT



Second Floor Plan
Santa Barbara Biltmore Hotel
Reginald D Johnson Architect



First Floor Plan
Santa Barbara Biltmore Hotel
Reginald D Johnson Architect

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SANTA BARBARA BILTMORE HOTEL, SANTA BARBARA, CALIFORNIA

REGINALD D. JOHNSON, ARCHITECT

Photo by Keystone

SANTA BARBARA BILTMORE HOTEL, SANTA BARBARA, CALIFORNIA

REGINALD D. JOHNSON, ARCHITECT

SANTA BARBARA BILTMORE HOTEL, SANTA BARBARA
REGINALD D. JOHNSON, ARCHITECT

Photo by Keystone

Photo by J. Wolter Collinge

PATIO LOS ARCA FROM PATIO ENTRANCE, SANTA BARBARA BILTMORE
REGINALD D. JOHNSON, ARCHITECT

SWIMMING POOL, SANTA BARBARA BILTMORE HOTEL
REGINALD D. JOHNSON, ARCHITECT

Photo by Keystone

NORTH PATIO, SANTA BARBARA BILTMORE HOTEL
REGINALD D. JOHNSON, ARCHITECT

Photo by J. Walter Collinge

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GARDEN TERRACE, HOUSE OF REGINALD RIEVES, MONTECITO

REGINALD D. JOHNSON, ARCHITECT

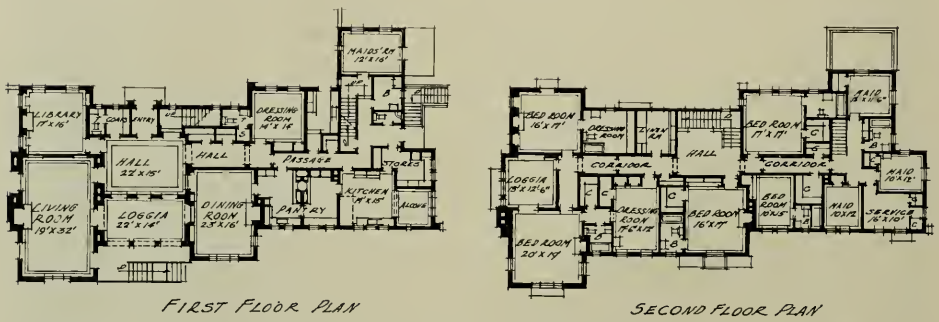
Photo by W. M. Clarke

HOUSE OF EDWARD LOWE, MONTECITO, CALIFORNIA

REGINALD D. JOHNSON, ARCHITECT

the latter district, on a magnificent hill overlooking the ocean, he planned a house for Mr. Harold Chase. It is one of the most satisfying and altogether idealistic abodes that it has ever been my privilege to see—at least so it seems to me.

While approaching the site, wide views of the ocean repeatedly come into view; at other times the base of hills are skirted that are covered with live oaks from whose boughs great masses of gray-green moss hang like decorative canopies over the profusion of ferns and other greenery on the ground below. Upon reaching the house side is a spacious out-of-door lounge or portico facing a great stretch of lawn and commanding a view up the coast. At either end of this portico are located the living and dining rooms, respectively, each commanding fine views in three directions. Overhead in the second story and facing the coast line view is a long overhanging covered balcony. The red tile roof irregularly laid, light colored walls, and overhanging balcony are reminiscent of Spain; but the spreading plan, spacious portico and large window openings are thoroughly American and tell of the desire to take the



FIRST FLOOR PLAN SECOND FLOOR PLAN

PLANS, THE EDWARD LOWE RESIDENCE, MONTECITO, CALIFORNIA
Reginald D. Johnson, Architect

the views are incomparably fine. Around about are other fine hills dotted with oaks, and beyond them, toward the north, stretches the coast line, one range of mountains after another meeting the sea and receding until they become delicate masses of blue and purple fading away in the distance.

All around the house are fine specimens of oaks, their lower branches sometimes cut away so that the structure of their light gray trunks and main boughs can the more clearly be seen. These, farther up, mingle with the dark masses of foliage making effects that are beautiful indeed. The house fits in among these oaks as splendidly as can be imagined. On the ocean utmost advantage of the splendid site and magnificent scenery. Mr. Johnson may have done other houses quite as good architecturally, but after all a building and its setting are what make the picture, and who shall say in this case just how much of the effect is due to one and how much to the other?

The use of large window openings in connection with this style is a point regarding which Mr. Johnson has been something of an innovator. Small window openings are, of course, leftovers from the days when they were required for protection and when plate glass was unknown. Not that others today have not also used large openings, but Mr. Johnson has introduced

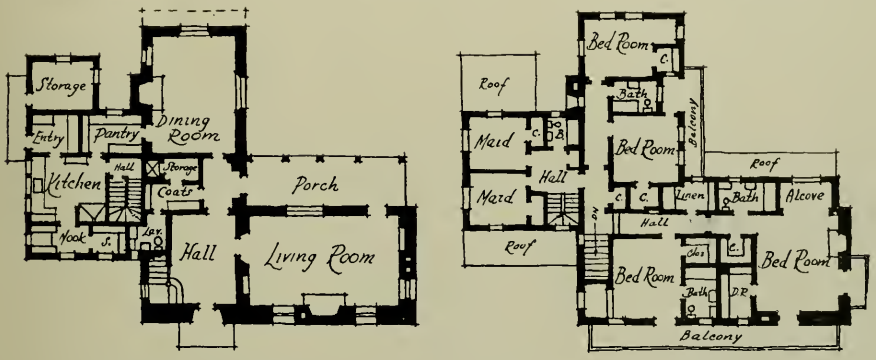
an element in connection with them which has overcome a difficulty and contributed greatly to their further success, namely the use of steel sash. Heretofore the trouble in using large windows in connection with Spanish treatment has been that they were apt to appear out of scale. By cutting the large openings into smaller divisions with steel sash, the thin muntins of which offer practically no obstruction to the view, Mr. Johnson has reduced the apparent scale of such openings to a very agreeable measure. He has done this with great success in the Chase house. All of the principal rooms on the ground floor have fine outlooks and have been provided with large windows treated in this way, and it contributes very much to their unusually cheerful aspect.

The gardens of this house are equally as lovely as the building. At a level considerably lower than the main floor is a swimming pool surrounded by green lawn and having a well designed semi-circular seat of masonry at one side which faces the view up the coast. This seat with its backing of garden wall over which lovely flowers hang and its surrounding live oaks, all reflected in the pool, might well have served as the setting of one of Alma Tadema's idyllic compositions. There were many other portions of the grounds that also courted investigation and acquaintance and I was sorry to leave the place. This house brought Mr. Johnson the honor award of the Southern California Chapter of the American Institute of Architects for the best residential work of the year 1927.

* * *

Long had I heard of the Santa Barbara Biltmore Hotel and had seen many photographs of it. My interest in it was probably further stimulated because, on the strength of having designed it, the first prize of the Community Arts Association of Santa Barbara was awarded to Mr. Johnson in 1927, and also because of it the silver medal of the Architectural League of New York had been given him in 1928. So, when an invitation came from the manager of the Biltmore to pay him a visit and form my opinions of it at first hand I was pleased.

Upon driving up, my first impression was one of surprise because it did not look like a hotel. It is in a residential district and appears as though it belongs there. Close to the ocean it stands, with green lawns in between, is surrounded with tall eucalypti, spreading oaks and Monterey cypresses and has the appearance of a very sumptuous country home—not a formal



"First Floor Plan" "Second Floor Plan"

PLANS, HOUSE FOR REGINALD D. JOHNSON, PASADENA

Reginald D. Johnson, Architect

Photo by W. M. Clarke

HOUSE OF REGINALD D. JOHNSON, PASADENA, CALIFORNIA

REGINALD D. JOHNSON, ARCHITECT

Photo by W. M. Clarke

HOUSE OF REGINALD D. JOHNSON, PASADENA, CALIFORNIA

REGINALD D. JOHNSON, ARCHITECT

LIVING ROOM, HOUSE OF REGINALD D. JOHNSON, PASADENA
REGINALD D. JOHNSON, ARCHITECT

Photo by W. M. Clarke

HOUSE OF FRANKLIN BALDWIN, OAK KNOLL, PASADENA

REGINALD D. JOHNSON, ARCHITECT

Photo by W. M. Clarke

GARDEN OF J. P. JEFFERSON HOUSE, MONTECITO, CALIFORNIA

REGINALD D. JOHNSON, ARCHITECT

HOUSE OF J. P. JEFFERSON, MONTECITO, CALIFORNIA
REGINALD D. JOHNSON, ARCHITECT

country home, but one that bespeaks luxurious provision for all those things that make for the genuine joys of living. It was a wise and unusual stroke to plan the two front wings which project toward the ocean but one story high. Had this been done differently the hotel would have lost its residential aspect, been without the beautiful open trussed ceilings of the main lounge and dining room and have been otherwise the regulation commercial affair.

Upon entering and wandering about, one is struck by the unusualness of the plan, and yet it is perfectly natural in effect—so for a moment one wonders how the combination came about in the mind of the designer. It has been said that the effect striven for was one of intimacy; but that does not begin to convey its charm. All of the customary ear-marks of hotel commercialism such as news stands, telephone booths, shops, etc., have been stricken from direct view in the lobby. They are there and are easy to find, but are not obtrusive. Even the cashier's window is without a label. Then, as is not often the case in hotels, the lounge is not also the lobby. It is a separate room off at one side, on a different level and facing the ocean. One has the feeling, when ensconced therein of being entirely undisturbed by those who pass in and out of the lobby, and hence of being in a luxurious private club rather than in a hotel. Nor is the dining room, as is usually the case in hotel planning, next to the lobby or lounge. It, too, is quite privately located. To find it one passes down a wide sunlit corridor facing a patio wherein a fountain plays, where there are gaily colored hammocks, a profusion of flowers, and even a gorgeous (but quiet) macaw. Upon reaching it one finds that it, too, faces the ocean, is irregular in shape, has a beautiful ceiling, a floor upon different levels, and an altogether charming aspect.

The large window openings previously mentioned in connection with steel sash are here to be found particularly contributory to good effect. For Mr. Johnson has here taken the arch which the Mission fathers introduced in Southern California and by means of carefully studied proportions, deep reveals and the use of steel sash has glorified it. All the principal rooms I have mentioned have these great circled window openings looking out upon ocean or patio; yet the motive has not been overdone as so easily could have been the case. In locations where such treatment is not called for smaller and square openings are used, thus creating a pleasing variety.

Such a place could easily have been spoiled by poor accessories. But everywhere the furnishings, (much of them selected under the direction of the architect), are in excellent taste. Here certainly there was no embarrassment on account of a limited budget. All the furniture, drapes, objects of art and even the deeply paneled doors of the main floor were made by master craftsmen and have come from decorative establishments, antique shops and studios whose names stand for the very finest in the arts of their kind.

Back of the main rooms of the ground floor is another beautiful patio, or rather a very large court, with beyond it a wing containing additional rooms, so designed as to contribute further to the picturesque beauty of the ensemble. One notable feature of this further wing is a medieval looking tower with a spiral outside staircase leading to its upper floor, and this feature is one of the striking notes that may be seen through a beautiful arch and vaulted passageway as one approaches the main entrance of the hotel. Here, surely, one feels like exclaiming, is that which recalls the romance of Spain but bespeaks also the comfort and beauty of America. In fact, the entire building breathes the same air of modern, genteel elegance combined with the romantic flavor of bygone days. Surely those are elements much to be desired in the buildings of our Southland today; it is by such as these that our architecture will advance. It will advance most by the example of those architects who, familiar with what the world has done in the past, are yet men of position and affairs enough to know what it wants now—and sufficiently talented and well trained to satisfy such wants. It will continue to advance by the example of the work of such men as Reginald D. Johnson.

THE PLAYFUL SIDE of ARCHITECTURE

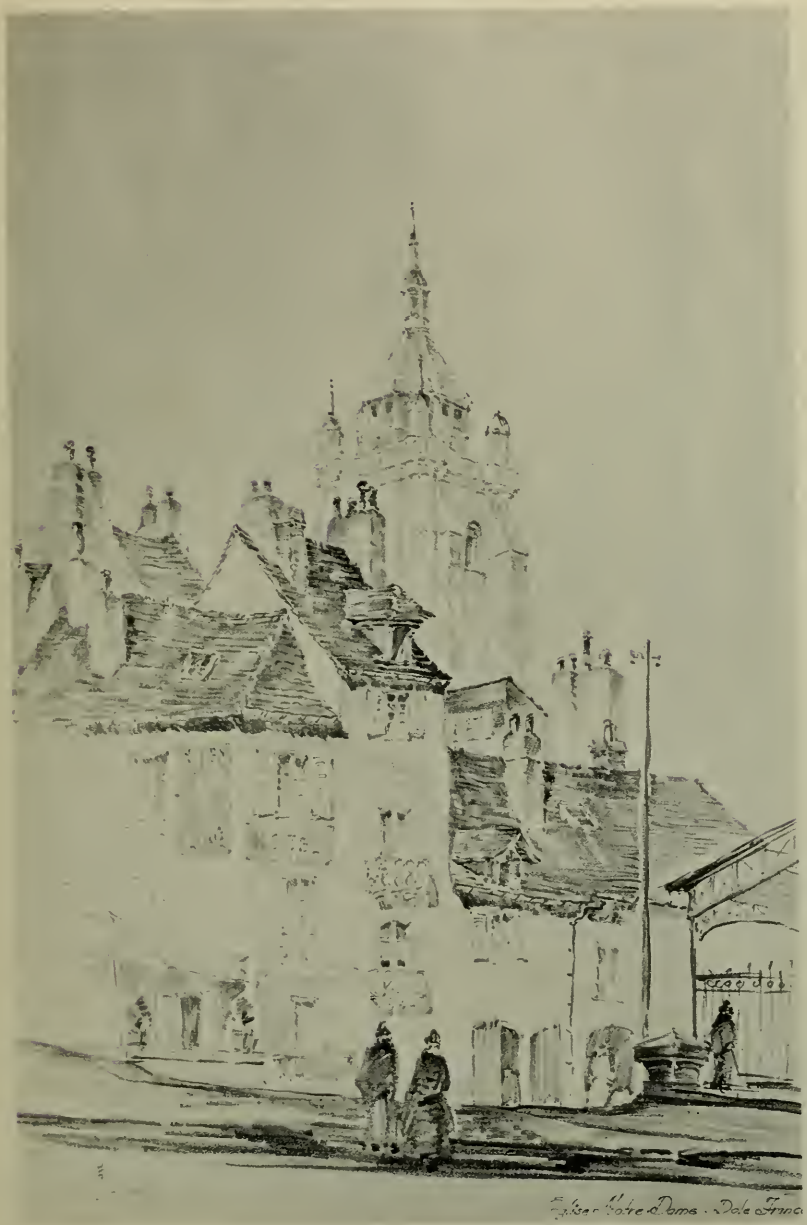
SKETCHES & DRAWINGS

by

John Elkin Dinwiddie

BRIDGE IN VENICE

A SIDE STREET IN PARIS

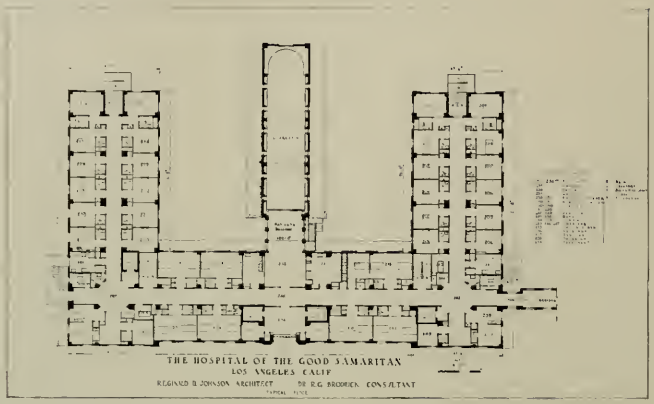


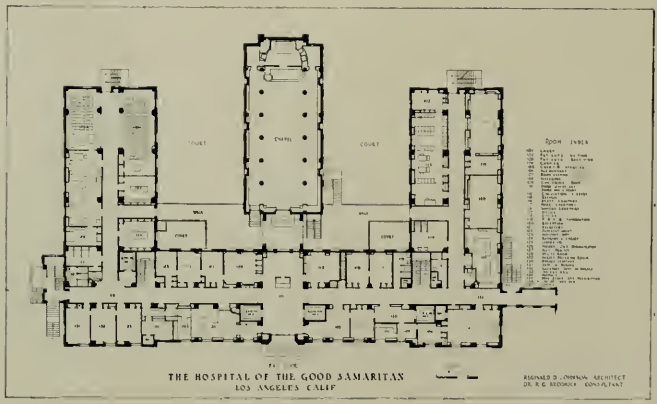
CHURCH OF NOTRE DAME, DOLE, FRANCE

STREET SCENE IN FRANCE

HOSPITAL OF THE GOOD SAMARITAN, LOS ANGELES

REGINALD D. JOHNSON, ARCHITECT



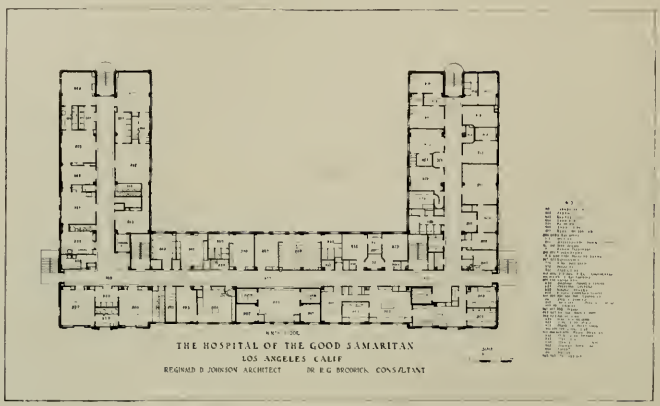


PLANS, HOSPITAL OF THE GOOD SAMARITAN, LOS ANGELES

REGINALD D. JOHNSON, ARCHITECT

MAIN ENTRANCE, HOSPITAL OF THE GOOD SAMARITAN, LOS ANGELES

REGINALD D. JOHNSON, ARCHITECT

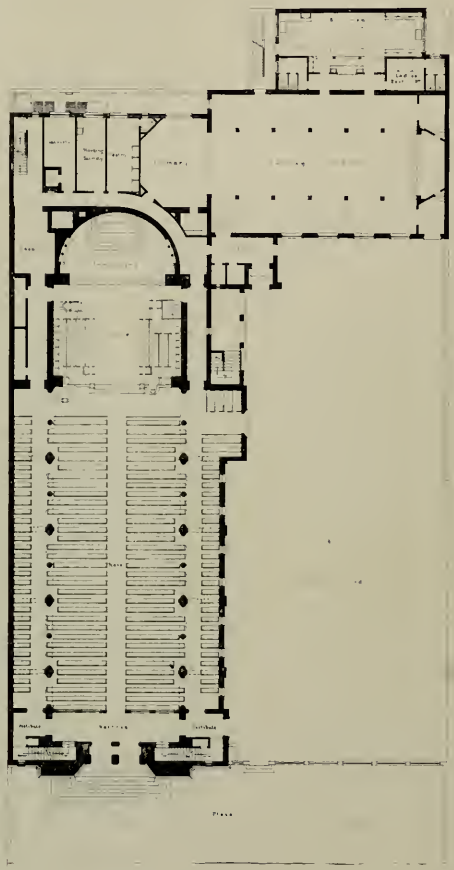


NINTH FLOOR PLAN, HOSPITAL OF THE GOOD SAMARITAN

REGINALD D. JOHNSON, ARCHITECT

SAINT PAUL'S CATHEDRAL, LOS ANGELES, CALIFORNIA

JOHNSON, KAUFMANN & COATE, ARCHITECTS



PLAN, SAINT PAUL'S CATHEDRAL, LOS ANGELES

JOHNSON, KAUFMANN & COATE, ARCHITECTS

SAINT PAUL'S CATHEDRAL, LOS ANGELES

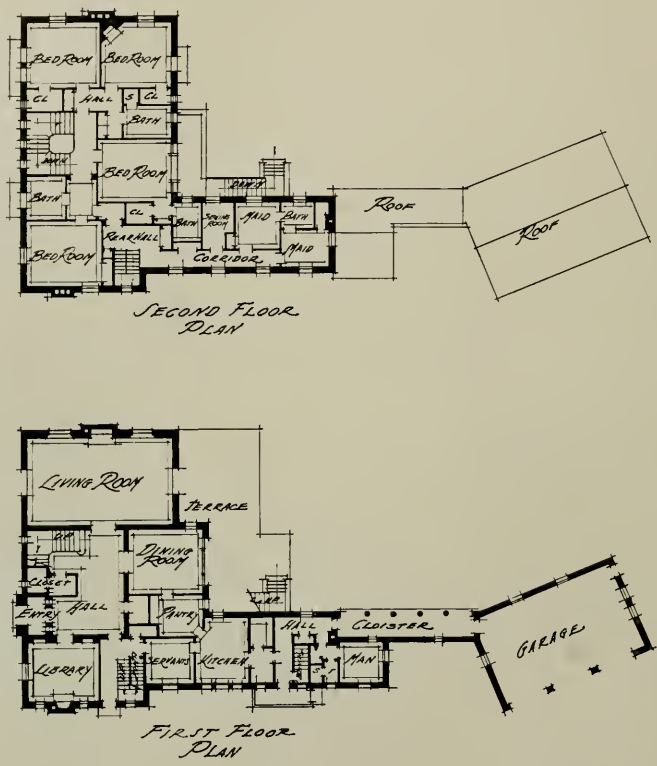
JOHNSON, KAUFMANN & COATE, ARCHITECTS

SAINT PAUL'S CATHEDRAL, LOS ANGELES

JOHNSON, KAUFMANN & COATE, ARCHITECTS

ENTRANCE, HOUSE OF FRED P. WARREN, EVANSTON, ILL.

REGINALD D. JOHNSON, ARCHITECT



PLANS, HOUSE OF FRED P. WARREN, EVANSTON, ILL.

REGINALD D. JOHNSON, ARCHITECT

GARDEN, HOUSE OF FRED P. WARREN, EVANSTON, ILL.

REGINALD D. JOHNSON, ARCHITECT

HOUSE FOR C. F. PAXTON, PASADENA CALIFORNIA

REGINALD D. JOHNSON, ARCHITECT

HOUSE FOR C. F. PAXTON, PASADENA CALIFORNIA

REGINALD D. JOHNSON, ARCHITECT

RESIDENCE FOR ALICE AND DATUS MYERS, SANTA FE, N. M.
REGINALD D. JOHNSON, ARCHITECT

RESIDENCE FOR ALICE AND DATUS MYERS, SANTA FE, N. M.

REGINALD D. JOHNSON, ARCHITECT

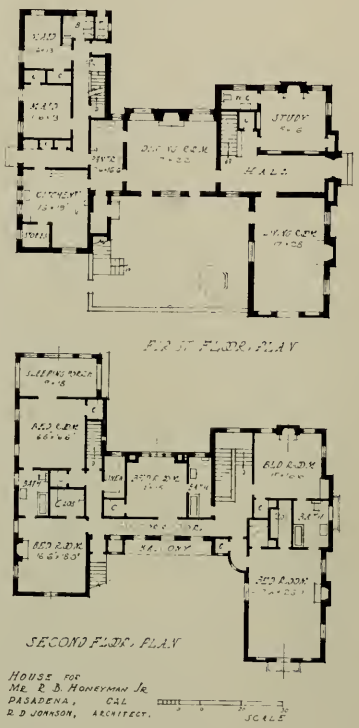
RESIDENCE FOR ALICE AND DATUS MYERS, SANTA FE, N. M.

REGINALD D. JOHNSON, ARCHITECT

Photo by Padilla

PATIO, HOUSE OF R. B. HONEYMAN, JR., PASADENA, CALIFORNIA

REGINALD D. JOHNSON, ARCHITECT



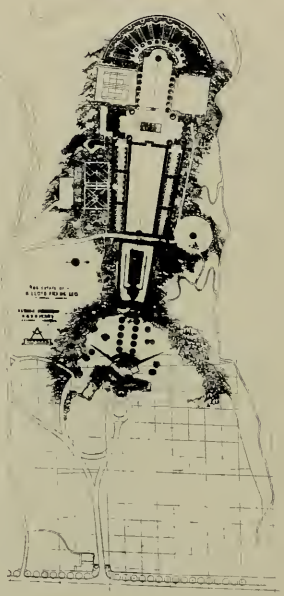
PLANS, HOUSE OF R. B. HONEYMAN, JR., PASADENA

REGINALD D. JOHNSON, ARCHITECT

Photo by Peasley-Jordan

REFLECTING POOL, ESTATE OF M. LLOYD FRANK, PORTLAND, ORE.

HERMAN BROOKMAN, ARCHITECT



PLOT PLAN, ESTATE OF M. LLOYD FRANK, PORTLAND, ORE.
HERMAN BROOKMAN, ARCHITECT

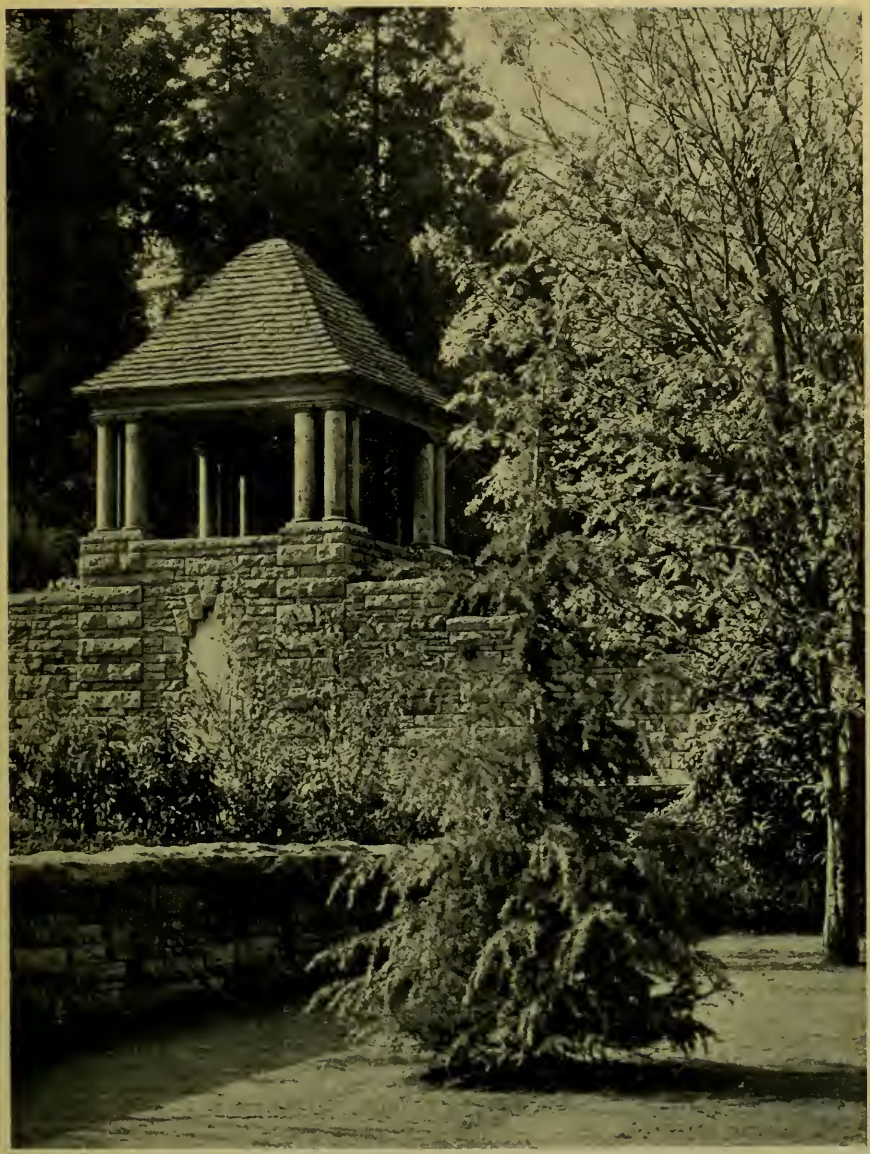


Photo by Peasley-Jordan

"THE GAZABO," ESTATE OF M. LLOYD FRANK, PORTLAND, OREGON

HERMAN BROOKMAN, ARCHITECT

Oscar B. Bach, Designer and Craftsman

BRONZE DOOR, CONSERVATORY, ESTATE OF M. LLOYD FRANK, PORTLAND

HERMAN BROOKMAN, ARCHITECT

HERMAN BROOKMAN'S HOUSE FOR M. LLOYD FRANK

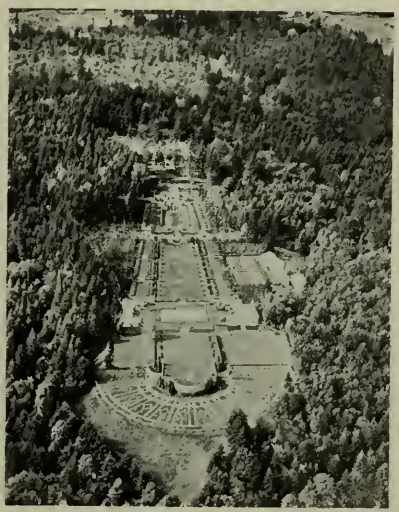
By Harold W. Doty
A.I.A.

THE residence and estate of M. Lloyd Frank, of Portland, Oregon, designed by Herman Brookman, architect, has an abundance of personality. To me, a test of a true work of art is the discovery of that something that is difficult to define—we call it character, quality, personality—something rather aloof, mystic, subtle. And this estate of Mr. Frank's possesses that *something*.

It is the reward of sympathetic study and work, with architect, owner and craftsman each contributing their share. Without the gracious sympathy of his client the architect could not have accomplished this achievement, and without a sympathetic regard for the beautiful, natural park in which the estate lies, and a real love for the brick, slate, stone, lead and oak used in the building, the architect could not have succeeded so well. Without, too, the sympathetic labor of the craftsmen, such as Oscar Bach, who did all the ornamental iron and lead work, much of the charm of the place would be lost.

Many pages of detailed description would be necessary to tell the complete story of this most satisfactory estate, the accompanying photographs of which can but give the least hint.

In this day there is so much that is tawdry, unfeeling, and sham, that, to contemplate a work having qualities all the opposite of these is refreshing, indeed.



AERIAL VIEW,
ESTATE OF
M. LLOYD FRANK
PORTLAND, OREGON

HOUSE AND GARDENS
DESIGNED BY
HERMAN BROOKMAN,
ARCHITECT

LOOKING FROM GAZABO TO BATH HOUSE, ESTATE OF M. LLOYD FRANK
Herman Brookman, Architect

UPPER TERRACES, ESTATE OF M. LLOYD FRANK, PORTLAND, OREGON
Herman Brookman, Architect

A FEW NOTES ON ZONING

By: J. W. Gregg
University of California

CITY planning is sometimes thought of as the planning only of the public features of a community such as its streets, parks and public buildings. It should be remembered, however, that most of the land within the limits of a modern city is privately owned and used, and that the development of this land must be guided. Zoning as a phase of city planning deals with those aspects of building which more directly affect the use of properties, both general and specific. In this way, districts or zones of rather different character may be established, thereby protecting the various interests of a city socially and economically.

The legislature and the courts say that zoning, to be recognized as a legitimate use of the police power of the state, must be carried out "in such a manner as will best promote the health, safety, and convenience, and welfare of the inhabitants, will lessen the danger from fire and tend to improve and beautify the city, will harmonize with its natural development and will assist the carrying out of any scheme for municipal improvement put forth by the Municipal Planning Board, all with due regard to the character of the different parts of the city, and providing that the regulations shall be the same for zones, districts, and streets having the same character."

This means that if a zoning ordinance and map is going to be accepted as reasonable by courts, it must be based on an absolute and thorough knowledge of the facts for every property throughout the city in so far as the facts may affect zoning.

Careful study should be made of existing conditions to see what is going to be for the greatest good of each part of the community now, and also 25 or even 50 years hence. Much of the value of zoning is lost if it serves merely to crystallize conditions as they are today.

Probably its chief value to the community is the possibility of its serving to creatively direct the growth of each function and of each part of the city along logical lines. In other words, put order into its growth, and avoid waste.

It must be evident that zoning cannot be studied effectively apart from the rest of the city plan. The topography, climate, soil, the distribution and character of its population and many economic and social factors of the city's development help to determine the distribution and character of the zones.

Existing thoroughfares help to determine business, industrial, and often apartment house streets. The location of future thoroughfares will serve to determine future b u s i n e s s, industrial, or apartment house districts, or railroad yard and terminal locations.

The study of the development of these railroad yards and terminals will strongly influence the fixing of future industrial districts. Street traction and bus lines, present and proposed, influence the location of present and proposed business, and also future industrial zones.

All this goes to show that the City Plan, instead of being a patch-work adjustment of a number of independent ideas, should rather be an entity developed scientifically from the basic underlying facts as deter-

mined by a fresh and impartial investigation. In so far as it is practicable to incorporate or adjust the individual ideas of the various departments and committees into the City Plan as integral parts of it, without material sacrifice in the other parts of the plan, such adjustment should be made. Wherever such adjustment cannot logically be made, the contributory facts should, of themselves, convince its proponents that the best good of the community in the future demands a modification of their desires.

In practice it is found that studying independently each of the above elements of the City Plan wastes a great deal of effort. Much work has to be duplicated. Independent solutions have to be adjusted to one another. This means going back over the process of study of each to find the least harmful point of give-and-take. Again, duplication of effort results, and at best the combined solution is a patchwork. Time, effort, and money can be saved, and a far better plan secured by studying all phases of the City Plan at the same time as integral parts of the entity.

Experience shows that the following order of study gives the most effective results with the least expenditure of time and money:

1. Base maps, city and regional.
2. Preliminary assembling of the facts.
3. Analysis of the facts and diagnosis.
4. Plan for a plan.
5. Detailed investigation and studies, general and regional data, circulation, public services, public and semi-public property, regulation of property, due administration and financing.
6. Comprehensive city plan and regional plan, preliminary, final.

As the specific studies progress side by side, by elimination the inevitable solution of each partial problem gradually appears. The preliminary comprehensive plan is meanwhile being constantly modified and improved so that eventually the completely rounded out final plan assumes form. This is backed up, of course, by numerous drawings, charts, diagrams, maps, plans, photographs, and reports which have probably been published to a greater or less degree as the work progressed.

As the studies are completed the time will have arrived to make, at a large scale, the ultimate final comprehensive City Plan Map which will contain the complete recommendations of the City Planning Commission. The plan would not be final in that it could never be changed, but it would serve for a long period of years as a chart to steer by, and as a plan from which departure should not be made except only as extremely unforeseen changing conditions may necessitate.

The usual policy in nearly every city has been to struggle along from month to month patching up here and there, and doing those things on which the taxpayers insist most strongly. It is customary for the strongest demand to secure the earliest satisfaction. In fact, it is difficult to do otherwise unless it is possible to show the public just where each particular demand fits into a general plan and program for a fully rounded out development of the community.

An unprejudiced city planning commission, working in collaboration with a citizens' city plan committee, and removed from daily routine and contact with details of city administration, should have the perspective necessary for the working out of such a comprehensive plan and program.

A City Plan is a citizen's plan. A City Plan to be a reality in a community should be known and talked about in every home. Everyone, young and old, should be interested in it. A copy of the plan should hang on the wall in every school and every public building. Each society, club, or group should have an active committee on City Planning, whose duty it should be to keep fellow members posted on its progress, for a City Plan, no matter how good, is worse than useless if it stays locked up in the plans of a City Planning Commission. It must be "sold" to the public, and the public must guard it jealously if it is to prove its value in making the community prosperous, beautiful, and happy.

MY EUROPEAN IMPRESSIONS

By
C O Clausen Architect San Francisco

XIV. STOCKHOLM

THE capital of Stockholm is built mostly on islands and peninsulas abundantly supplied with many waterways and for this reason has been called the "Venice of the North." It is situated at the eastern extremity of Lake Malaren, where the waters of this lake empty into the Saltsjon, an arm of the Baltic Sea.

Stockholm has also been called the "Granite City" because of its many buildings constructed of granite quarried from the very land they rest upon. Most of the buildings, in fact, are of granite upon foundations of granite.

The new Town Hall departs from the usual granite construction, however, and is built of extra large red bricks. This building has a peculiar style, all its own, and expresses the severe and original type of the new Swedish Architecture. It took twelve years to build this four million dollar structure. The building was party financed by public subscriptions and it is interesting to look over the great copper roof composed of small plates each of which bears the name of the donor of twenty-five kroner, or about six dollars.

The city has many magnificent buildings and is one of the cleanest places in the world. Everything here seems to glisten in the sunlight. The streets are scrupulously clean and the waterfront is devoid of the customary dark ugly warehouses, foul smelling restaurants and cheap shops which generally meet the eye of the traveler upon entering a seaport town. Although Stockholm is the principal distributing center for imports, Gothenburg leads as the most important shipping center, because at certain times of the year the harbor of Stockholm is blocked with ice, while that of Gothenburg is rarely frozen.

Stockholm boasts of the only skyscrapers in Europe and has two seventeen story office buildings of the American type, facing each other across one of the principal streets of the city.

STOCKHOLM, STADSHUSET

The Royal Palace stands on an island by itself and is conspicuous from almost every part of the city.

The lofty spire of the Riddarholm Church looms up from quite a distance with its unusual design of open metal work. The great soldier-king Gustavus Adolphus lies buried here and close by rests the once oppressive Charles XII. The church is paved with tombstones and in a chapel reposes the remains of the rulers of Sweden since Napoleon's Marshal, Bernadotte, established the present dynasty.

The ARCHITECT'S VIEWPOINT

- *Architecture—A Natural Impulse.*
- *The Ability to Plan.*
- *The Importance of Beauty.*
- *The Need for Collaboration.*

CONTRIBUTING EDITORS
WILLIAM C. HAYS . . *San Francisco*
CARLETON M. WINSLOW . *Los Angeles*
HAROLD W. DOTY . . . *Portland, Ore.*
CHARLES H. ALDEN . . *Seattle, Wash.*

A CAREFUL and thoughtful critic, writing on the subject of architecture, once said that since architecture is building planned or constructed to be pleasing in appearance, every building is a work of architecture as a designer or builder is always governed to some extent by appearance. The result may be good or bad but it is always a work of architecture as a pleasing appearance is always a factor.

This universal effort toward a pleasing appearance will probably be recognized as a natural impulse, being evident in a multitude of different ways in the different things we do, as in the clothes we wear and in the arrangement of our homes. That the resulting effect is considered bad to those witha cultivated eye does not mean that the effort to make a pleasing appearance is not there.

Recognizing this natural impulse, cannot its lack be only attributed to a willful elimination of a natural desire? An engineer, considering that his problem of designing a utilitarian structure is solely a practical one, will not permit any natural impulse he may have toward a pleasing appearance to influence in any way his structural achievement. If any pleasing appearance is desired for his structure, he feels that he should leave it to the architect to add the "architecture" or "doll it up" as he terms it, to the extent desired.

In conformity with this division of labor the practical man arrives at the belief that the architect's province is confined to "dolling up" a structure and it is believed that the architect's ability to do this operates against his ability to plan or handle any practical building requirement.

* * *

THIS brings about a belief that in spite of architecture fundamentally requiring, as John Ruskin states it: "the doing of its practical duty well," the practitioner of architecture, although fundamentally trained in planning buildings, cannot be trusted to plan economically, and economy demands that the planning be done by others not so fundamentally trained but having experience with other phases of practical building construction.

To show where this leads us there might be quoted an example which recently occurred in one of our leading Pacific Coast cities. A fire alarm station being required, the planning of the building, presumably for reasons of convenience and economy, was handled entirely in the office of the city engineer. When plans and specifications were ready for bids a set was obtained by a group of local architects, the building re-designed in an architectural manner, planned to conserve space, facilitate traffic, and otherwise economically meet the practical demands, and an exterior designed to be pleasing in appearance and architecturally express the problem. In place of adding to the cost actual bids obtained by the architects showed that a saving had been effected of nearly ten thousand dollars, or one-third the cost of the building.

Assuming the useful life of this building to be twenty-five years, the saving would amount in this period, if the architects had been employed, to something over forty-five thousand dollars, an amount considerably in excess of the entire original cost of the

building. Moreover, the city would have gained a saving in time and gain in convenience for the thousands of people who used the building during this period, and its more pleasing exterior would have added to the pleasure of many more thousands who might view it. A loss occasioned by an effort to effect an initial saving of a few hundred dollars in architect's commission.

When the object of giving pleasure is in any way a function of a construction project it would seem to be natural to expect that the planning would be entrusted to those having requisite training and having the end sympathetically in view. If it is a building, it should be planned by an architect; if a landscape effect, a landscape architect; if a scenic highway, an engineer realizing the scenic importance of his problem.

It was in this way that the city above referred to as building the fire alarm station secured such admirable results in its beautiful parks and it was in the vicinity of this city that the Federal government secured for the people the wonderful scenic effects in the mountain highways. It was particularly appropriate in connection with these highways that the eminently technical engineer who planned them realizing the aesthetic purpose of his problem, and working as a government employee without hope of personal recognition, should have his memory forever preserved by naming for him the conspicuous scenic viewpoint on one of these highways made possible by his wise planning. All who visit Ricksecker Point on Mount Rainier's scenic roadway should appreciate the magnificent contribution made by this eminently able and devoted engineer in meeting the aesthetic opportunities of his problem.

* * *

WHILE the solving of the practical requirements is fundamental in producing a work of architecture it is the aesthetic expression, of course, that makes it architecture and while architects frequently cause trouble by unduly emphasizing the aesthetic, do they always realize its importance? The practical use of a building may change and its usability become obsolete but its appearance is lasting and continues to compel the attention of the public.

A distinguished layman, in addressing a meeting of architects in one of our Pacific Coast cities goes as far as to say that in his opinion "the most useful thing about architecture is the beauty of it." Showing how this beauty or lack of it cannot fail to get public attention, he says: "I think in this respect that the architect has an art which is different from every other one in that it throws down a challenge which the public is bound to recognize. A man reads a book—you can read it or not as you please. You can recommend it to your friends, but you need not read it. If you go to a concert you can drown the music with your conversation if you like. You don't have to look at any pictures that have been painted. But architecture that is placed in our cities is something which puts itself squarely before the eyes of the public and there it has to stay."

Do architects fully realize this responsibility or are they often willing merely to "get by" with a design which is satisfactory to an owner?

* * *

IN the complex structure of modern civilization we cannot be Michael Angelos: expert in engineering, architecture, sculpture and painting. There must be collaboration. The American Institute of Architects has for many years been trying to bring about a collaboration in the arts making this the major theme of its last two annual conventions. There must be collaboration with the engineer, but unfortunately dealing only with science and fact, he talks a different language and his work on a building is not displayed for the appreciation of the public.

The architect must realize that his work can only exist with a recognition of the practical, but nevertheless, "there *is* a Santa Claus," and it would be a sad world for even the most practical man of science if he dealt only with the material and failed to recognize the imaginative quality which gives life to our civilization.

CHARLES H. ALDEN, F. A. I. A.

EDITORIAL CHAT

IN his travels south a few weeks ago, the Editor stopped off at Bakersfield and enjoyed a visit with a former San Francisco architect, Edwin J. Symmes, now nicely situated in the Kern County Capitol. Symmes went to Bakersfield about two years ago at the suggestion of his physician who advocated a climate less drastic than that around the San Francisco Bay. The change has worked wonders with the former architect for the Yosemite Valley-Curry Company. With his partner, Clarence Cullimore, he has built up an enviable clientele in Kern County, with a record of fourteen school building projects in a period of less than two years. If the school building this firm has just finished at Beardsley is an example of their work, I must say they are putting over material that ranks with any school architecture in California. For $120,000 the firm has given the Beardsley District a good looking, well arranged school building with class rooms, auditorium, kindergarten, administrative offices, domestic science and auto bus garage. Nothing has been omitted that one might expect to find in the modern school. There is an automatic steam heating plant with ventilating fans, a fire-proof moving picture room, a stage, curtains and lights for dramatic entertainment, an orchestra pit as good as any possessed by a San Francisco theater, reversible type windows, and venetian blinds for hot weather, hose racks and water plugs, an electric fire alarm system, telephones and program clocks—all this with money left over from the $120,000 bond issue to furnish the class rooms and auditorium, grade and plant the school yard and equip it with playground apparatus!

Both Edwin Symmes and Clarence Cullimore are graduates of the School of Architecture of the University of California. For many years Symmes practiced the profession in Alameda and San Francisco. He was, at one time, a member of the City Planning Commission in Alameda.

Some of Symmes & Cullimore's schools will be shown in this magazine in the May issue.

* * *

WE are confident our readers will make allowance for the absence of the Modern Art and Architecture Department this month. This, and other features have given way to the Reginald Johnson work which is so much better than the ordinary run of material that there was neither opportunity nor desire to omit any of it. Seldom, indeed, is an architectural magazine permitted to publish in a single number such a splendid collection of superb photographs and plans. No architect in the West has achieved greater recognition in the profession than has Mr. Johnson. His work may well be a standard for others to emulate.

* * *

READERS are promised a treat in an early issue of the THE ARCHITECT AND ENGINEER which will feature the recently completed Santa Barbara County Court House. The Spanish influence which dominates the architecture of the City of Santa Barbara, is carried out in that same romantic spirit on the court house by William Mooser and Son, architects of the building. The new structure is being referred to as "The Court House Beautiful" and as such it will be treated in an article which Marian MacLean Finney is writing for the readers of this magazine.

25 STORIES AN EFFICIENT BUILDING HEIGHT

WITH the maximum economic height of an office building for the average ground space, up to approximately forty stories, the further advance skyward awaits solution of the same problem that exists in city streets—traffic congestion. This is the statement of William F. Lamb, New York architect, who has made a special study of the situation.

Problems of actual construction have been solved, he points out. Since the de-

velopment of the steel framework, enveloped with terra cotta or other light, strong facing materials, the skyscraper is virtually ready to shoot upward to new heights. But there is a point beyond which elevator service presents too many difficulties. Either service is inadequate to suit the hurrying passenger or too much valuable space is taken up by additional elevator shafts.

Qualifying the conclusions regarding "maximum economic height," Mr. Lamb explains that there may be valid reasons for exceeding it. Advertising value is a frequent consideration. With exceptionally large ground spaces there may be portions in the center of a building, left in darkness, which can be economically used for extra elevator shafts. The estimate of maximum economic height is based on average, normal conditions.

"It has been necessary to compute this height," he says, "because of the high values of land. Architects have had to figure how high a building should go to bring maximum net returns. Individual cases vary, but on an average we have found that the most efficient height for a building is about twenty-five stories. It is at this height that a building generally pays the greatest rate of returns on the cost of construction.

"Where land is extremely valuable it is desirable to go higher, so that additional rentals, even though proportionately less, may be applied to increase the return on the total investment, including construction and ground cost. In average cases the net returns continue to increase, up to about forty stories."

Structural steel and other modern building materials have practically knocked the limit off of possible altitudes, it is explained, so that only the economic factor holds them down.

A number of ingenious elevator arrangements have already been designed, Mr. Lamb says, to free the skyscraper of its limitations but thus far the most radical of these have not been put into operation. Skepticism as to their safety and practicability must be removed before they can be used.

One plan which has met with favorable comment provides for two elevator cars in each shaft. The upper car would be an express, making no stops until well above that portion of the building served by the lower car, which would be a local. Thus the two would never meet, except at the bottom, where they would take on and discharge passengers on separate floors.

Another plan would provide express elevators, like express subway trains, stopping, for example, at every tenth floor. Local elevators would operate in shafts parallel to them, each one only ten stories deep. The local shafts would not be connected with each other. Thus, in a building of forty-odd stories, there could be four local elevators operating directly below one another, but in separate shafts, with no possibility of collision.

Whatever plan is ultimately worked out so that it meets with official and public approval, Mr. Lamb claims it will be the development of the elevator that will set the skyscraper soaring to new heights.

THAT FOUNTAIN OF LIFE

YOUTH is not a time of life—it is a state of mind. . . It is a temper of the will, a quality of the imagination, a vigor of the emotions. It is a freshness of the deep springs of life. Youth means a predominance of courage over timidity, of the appetite of adventure over love of ease. This often exists in a man of fifty more than in a boy of twenty. Nobody grows old by merely living a number of years. People grow old by deserting their ideals. . . .

"Whether seventy or sixteen, there is in every being's heart the love of wonder, the amazement at the stars and the starlike things and thoughts, the undaunted challenge of events, the unfailing childlike appetite for what next, and the joy in the game of life. You are as young as your faith, as old as your doubt: as young as your self-reliance, as old as your fear; as young as your hope, as old as your despair. In the central place of your heart there is a wireless station. So long as it receives messages of beauty, hope, cheer, grandeur, courage, and power from the earth, from men, and from the infinite, so long are you young."

—*International Paper Monthly*

WITH the ARCHITECTS

SAN FRANCISCO MUNICIPAL WORK

The office of the Bureau of Architecture, in charge of C. H. Sawyer, City Hall, San Francisco, is busy on plans for additions to the City and County Hospital, which are estimated to cost $350,000. The Bureau is also in charge of plans for additions to the women's wing of the County Jail, San Francisco. Bids are now being taken for the construction of an elementary school building on Geary street, San Francisco, from plans by Ashley, Evers and Hays. The estimated cost is $145,000.

FRESNO ARCHITECT BUSY

New work in the office of Ernest J. Kump Company, Fresno, includes an Odd Fellows building at Merced street and Broadway, to cost $110,000; gymnasium for the Woodlake Union High school district, $20,000; group of Junior College buildings, Visalia, $200,000; newspaper plant for the Visalia Delta-Times, $14,000; and a brick hospital at Visalia to cost $50,000.

SPANISH RESIDENCE

Frederick H. Reimers, architect of Oakland, is preparing plans for a Spanish residence to be built in Piedmont for W. L. Webber at a cost of $25,000. Mr. Reimers is completing working drawings for a large English house for E. J. Sweetland in Piedmont, which, with the landscape work, will represent an expenditure of $150,000.

TO DESIGN TWO COSTLY RESIDENCES

Gordon B. Kaufmann, architect of Los Angeles, has been commissioned to prepare plans for an Italian residence at Palos Verdes, California, for the Frank A. Vanderlip Estate, at an estimated cost of $600,000. Mr. Kaufmann has also been appointed architect of a $300,000 home at Palos Verdes for E. W. Harden of New York City.

CANNERY BUILDINGS

Weeks and Day, architects of San Francisco, have completed plans for a group of cannery buildings which the Income Properties Company will build in the Oakland Estuary at a cost of $500,000. The buildings have been leased to the California Cooperative Fruit Growers Association.

ARCHITECTURAL COURSES

Courses in architecture will be given between June 17 and July 26 during the twelfth summer session of the Carnegie Institute of Technology in Pittsburgh, according to an announcement from Dr. Roscoe M. Ihrig, director of summer courses.

The Department of Architecture of the College of Fine Arts will give an intensive six weeks' course to meet the needs of students who desire to continue their work in architecture in the vacation, whether to make up credit, obtain advanced credit, or to prepare themselves better for college entrance.

Subjects to be offered this summer will include Architectural Design, Outdoor Sketching, Descriptive Geometry, Shades and Shadows, Perspective, and Trigonometry.

ARCHITECT'S WORK EXHIBITED

The drawings and photographs exhibited by G. Stanley Wilson, architect of Riverside, California, in the Architects' Building, Fifth and Figueroa streets, Los Angeles, attracted considerable attention, and included photographs of the new art gallery, chapel, offices and shops in the Mission Inn, the casino for the Lake Norconia Club, Norco, California; also garage buildings, laundry and women employes' quarters at the club. Other work included the Palm school, Riverside, with a touch of Venetian Gothic in its pointed windows; the Riverside Junior College, and an interesting study of the High Sierras Power Company plant at Brawley.

ADVISORY COMMITTEE NAMED

The following have been named members of the advisory committee of the Community Arts Association of Santa Barbara: John M. Gamble, W. A. Edwards and John Frederick Murphy, Santa Barbara; William Templeton Johnson, San Diego; David C. Allison, Charles H. Cheney, H. Roy Kelley, Reginald D. Johnson and Carleton H. Winslow of Los Angeles.

$1,000,000 RESIDENCE

Reginald D. Johnson of Los Angeles, has been commissioned to prepare plans for a $1,000,000 Mediterranean type residence on a 700 acre estate in north Santa Barbara, for Ray L. Scofield of New York City.

TIMOTHEUS JOSENHANS

Timotheus Josenhans, one of the pioneer architects of Seattle, for many years an active member of the Washington State Chapter, American Institute of Architects, and later an Honorary Associate, died recently in the northern city.

Mr. Josenhans had been connected with the architectural growth of Seattle since 1888, and was for a number of years in partnership with N. B. Allan as Josenhans & Allan. Under George H. Cotterill, then mayor, and later under Hiram C. Gill, he filled the office of Superintendent of Buildings for the city of Seattle in a way most satisfactory to both the administration and the public whom he served.

Mr. Josenhans was a man of high ideals, painstaking in his work, and of a lovable nature, always willing and ready to extend a helping hand to those who were newcomers to the profession. He enjoyed the greatest respect and sincere love of his colleagues. He was graduated in Engineering from the University of Michigan, and was later a Professor of Engineering in the same University.

GRANTED CERTIFICATES

At the meeting of the State Board of Architecture, Northern District, March 26, the following were granted certificates to practice architecture in California: Arthur H. Lamb, Santa Fe Building, San Francisco; Miss Rose E. Luis, 811-60th street, Oakland; Andrew B. Talbot, 251 Kearny street, San Francisco.

The following applicants were granted architects' certificates at a meeting of the Southern District, March 27: Josef Bernaddus A. Van Oort, 1614 S. Highland avenue, and Leo F. Bachman, 348 S. Western avenue, both of Los Angeles.

The following applicants were granted architects' certificates at the meeting of the California State Board of Architecture, Southern District, February 26: Alvann E. Nostrum, 1104 W. M. Garland Building, Los Angeles, and David Robertson Finnick, 505 North Irena street, Redondo Beach.

ROBERT MORGENIER

Robert Morgenier, formerly practicing architect in Oakland and Alameda, died March 28th at his home, 3047 Dohr street, Berkeley, after an illness of four months. Mr. Morgenier was 73 years old and had been a resident of California for the past twenty-three years.

PERSONALS

Joseph W. Heiler announces the opening of an office for the practice of architecture at 507 Henry building, Portland, Oregon. Mr. Heiler would be pleased to have building samples and trade literature.

Leo J. Devlin, who has practiced architecture in San Francisco for the past twenty years and for a number of years with offices at 821 Market street, announces that he has retired from active practice on account of poor health. Mr. Devlin requests that advertisers remove his name from their lists and discontinue the sending of catalogues and other professional data. Mr. Devlin's present address is 160 Seacliff avenue, San Francisco, his home.

H. W. Charlton has opened an office at 6215 S. Benson street, Huntington Park, and will resume the practice of architecture. Mr. Charlton, due to a serious illness, was forced to abandon his profession about four years ago.

Milton R. Sutton, architectural designer, has moved from 6549 Sunset Boulevard to 6607 Sunset Boulevard, Hollywood.

George M. Lindsay, Erwood P. Eiden, associate, have moved from 601 Union Insurance Building to 609 Union Insurance Building, Los Angeles.

Messrs. Sexsmith & Wade have moved from 6513 Hollywood Boulevard to room 236, 6636 Hollywood Boulevard, Hollywood.

Louis Du P. Millar and Edward A. Hayes, associate, have moved from 40 S. Los Robles avenue, Pasadena, to 595 E. Green street, Pasadena.

Rudolph Falkenrath, Jr., 611 Chamber of Commerce Building, Los Angeles, was recently appointed to serve on the art and education committee of the Los Angeles Chamber of Commerce.

Ralph D. Taylor, architect of Alturas, announces that he has moved his office from Susanville to Alturas, where he will make his headquarters in the future. Elliot J. Adams, who is associated with Mr. Taylor, will also be located in Alturas. The office is at present busy on plans for a small bank building for the Bank of Lakeview, Oregon, and for a store and office building in Alturas for M. G. Belli, the structure to cost $35,000.

J. A. McCarthy, formerly president and general manager of the Old Mission Portland Cement Company, has been appointed general manager of the Pacific Portland Cement Company, of which concern Mr. McCarthy is also vice-president.

Stephen Child, landscape architect, San Francisco, is now engaged in developing several projects, including two residential subdivisions at Phoenix, Arizona.

SUB-WAY "SKYSCRAPER"

It is planned by Japanese builders to erect in Tokio an 80-story structure in a hole 1,100 feet deep and 155 feet in diameter, according to a New York newspaper. In this cavern is to be erected a modern building, the ostensible purpose being to avoid possible catastrophe from earthquake.

A central well 75 feet in diameter is supposed to provide for these necessities. As to proper ventilation, this undoubtedly can be accomplished. The lighting will probably be just as good as in the average office building.

A million tons of rock must be taken out if this plan goes through—a fair sized quarry in itself will be the hole made for this "up-side-down" skyscraper.

VISITS UNITED STATES

Daniel Dominguez, Central American architect, has been spending some time in San Francisco and other Coast cities, coming here to study hotel architecture. Dominguez is preparing plans for a 140-room hostelry near the city of San Salvador, which is to be built by Benjamin Bloom and Miguel Duennas, millionaire bankers and exporters of Salvador. The hotel will cover an entire city block and will present the latest in hotel accommodations and service, according to Dominguez.

The hotel will be surrounded by terraces and gardens, and other features include a sixty-piece orchestra pit, swimming pool, tennis court and gymnasium. The Spanish-type structure will be five stories in height.

PORTLAND ARCHITECT HONORED

The bitten line etching of the Arch of Titus made in Rome a year ago by Edgar M. Lazarus of 705 Davis street, Portland, was accepted by the jury for the 10th international print makers' exhibit held recently. The etching had received favorable comment in Rome and Paris. The Los Angeles exhibit is one of the most important held in this country. Mr. Lazarus' soft line etching of Grant's tomb made several years ago was accepted for the San Francisco print exhibit in 1926 or 1927.

ADDITION TO SALINAS HOTEL

A four story reinforced concrete addition will be built to the Francisco hotel, Salinas, from plans by H. H. Winner, San Francisco. The improvements will cost $100,000.

CITY PLANNING CONFERENCE

Engineers, architects, municipal officials, and all whose business or civic interest is concerned with the right development of land will be greatly interested in the Twenty-first Annual Meeting of the National Conference on City Planning, to be held in Buffalo and Niagara Falls, New York, from May 20th to 23rd, inclusive.

"What Makes 'The City Beautiful' " will be the subject of a paper by George B. Ford, architect and city planner, of New York City. Harold S. Buttenheim, editor of the *American City,* who has been investigating the relation of city planning to modern housing, will speak on "Where City Planning and Housing Meet," and Lawrence Veiller, one of the leaders of the housing movement in the United States and Director of the National Housing Association will discuss "Light. Modern Standards and Ancient Law."

Robert Whitten and Harland Bartholomew, city planning consultants, will speak on "The Traffic Analysis and Forecast in Its Relations to Thoroughfare Planning" and "Street Replanning in Downtown Districts of Large Cities."

The signal achievements in regional planning of Los Angeles County will be the subject of a paper by Charles H. Diggs, Director of the Regional Planning Commission of Los Angeles.

ADDITIONS TO HOTEL

Plans are being prepared by Jens C. Petersen, architect with offices in the California State Life Building, Sacramento, for extensive alterations and additions to the Travelers Hotel at Crescent City, Del Norte County. Forty rooms will be provided; improvements to cost $60,000.

CLASS C APARTMENTS

Plans have been completed by Irvine and Ebbets, Call Building, San Francisco, for a six story, Class C apartment building for Ralph Norris, to be built at Lakeshore Boulevard and Hanover street, Oakland, by the K. E. Parker Company. The estimated cost is $125,000.

WATSONVILLE DEPARTMENT STORE

Ralph Wyckoff, architect of San Jose, has let a contract for the construction of a three story steel frame and concrete store building in Watsonville, for the Charles Ford Company, of Watsonville, at an approximate cost of $55,000.

AIRPORT COMPETITION

Three hundred million dollars will probably be spent for airport construction within the next few years. Much of this money may be wasted because communities cannot foresee how best to plan their ports and the facilities which air transportation require. Appreciating the potential loss which this situation creates, the Lehigh Portland Cement Company is conducting a national competition among architects and engineers for the design of airports.

The Lehigh Airports Competition is a serious endeavor to contribute something of practical value as a guide for the expenditure of the billion or more dollars which inevitably will be spent within a few years for ground facilities in conjunction with commercial aeronautics. The competition program was formulated by a program committee of nationally known experts, headed by Harvey Wiley Corbett, one of the country's foremost architects.

The program committee consists of four sections—architecture, engineering, city planning, and aeronautics. With Mr. Corbett on the architectural section are Raymond Hood, co-designer of the Chicago Tribune tower; Prof. William A. Boring, dean of the school of architecture, Columbia University; Francis Keally, professional advisor for the competition and an architect who spent last summer flying through Europe making a special study of airports, and Parker Morse Hooper, editor of the *Architectural Forum.*

The engineering section, headed by Morris Knowles, noted civil engineer and city planning expert, and including Francis Lee Stuart, former vice-president of the A.S.C.E.; Gavin Hadden, C.E.; Harold M. Lewis of the Regional Plan of New York and its environs, and Col. Willard Chevalier, managing director of Engineering problems which are such an important phase of airport development.

George B. Ford, city planner, is chairman of the civics and city planning section, in which work he has been assisted by E. P. Goodrich, who is now in China making a study of engineering problems, including the development of airports in conjunction with the expansion of Chinese transportation systems. Fred C. McLaughlin, mayor of White Plains, New York, president of the New York State Conference of Mayors and of the Westchester County Planning Federation, represents the interests of municipal authorities in the competition, and Harold Buttenheim, editor of *American City,* represents city engineers, chambers of commerce, and similar bodies concerned with this problem.

PIONEER FIRMS MERGE

Three pioneer San Francisco building material houses have lately merged their interests. The plumbing and pipe department of Holbrook, Merrill & Stetson is now part of the Geo. H. Tay Company. Business will go on under the name of Tay-Holbrook, Inc. The heater, refrigerator and stove departments of Holbrook, Merrill & Stetson have been merged with Mangrum & Otter and the new concern will be known as Mangrum-Holbrook Company, and thus represent in one firm name the history of two firms that for many generations have helped in the upbuilding of the Pacific Coast.

Mangrum & Otter, Inc., established for forty-two years, are wholesalers of stoves, heaters, tile, fireplace accessories, refrigerators, household ware, kitchen equipment, glassware, china and silverware for restaurants, hotels and institutions. The new firm will act also as exclusive distributors of the famous line of Holbrook guaranteed stoves and ranges. The headquarters of Mangrum & Otter, Inc., now known as Mangrum-Holbrook Company, are located at 1235 Mission street, San Francisco.

Their building, recently illustrated in this magazine, has been pronounced one of the outstanding architectural achievements in recent years.

RESIDENCE WORK TO BE SHOWN

Berkeley will have an architectural exhibition sponsored by a number of local architects and others interested in good domestic architecture. There are forty architects who reside or practice their profession in the city of Berkeley, all of whom are eligible to exhibit their work providing the houses have been built within the city limits of Berkeley. The exhibition will be held in the Art Museum at 2270 Shattuck Avenue, adjoining the City Library, beginning May 1st and continuing until May 27th. The Art Museum is under the direction of Mildred McLouth, 1382 Sacramento street, San Francisco.

OAKLAND CIVIC CENTER

Plans for an Oakland civic center around the municipal auditorium are being prepared by members of the Alameda County Society of Architects for the Oakland City Planning Commission. Decision to permit the architects' group to prepare the plans for the project was made when the Oakland city council failed to provide funds for the employment of Harland Bartholomew, city planner, for this work. No charge will be made by the architects' society.

SOCIETY and CLUB MEETINGS

NORTHERN CALIFORNIA CHAPTER

The regular meeting of the Northern California Chapter, A. I. A., was held at the Mark Hopkins Hotel on March 26, at 6:30 p. m. The meeting was called to order by the president.

Guests present were: Edgar Walter, Henry Hering, Leo Lentelli, Mr. Strother, Spencer Macky, Lee Randolph, Robert Howard, Haig Patigian and Morton Gleason.

Mr. Jeans, chairman of the exhibit committee, outlined the plans for the coming biennial honor award exhibit to be held in June, and urged the necessity of every one beginning to prepare the material which they intend to display.

Mr. Blakewell spoke of the probability of new quarters for the institute, and expected to be able to enlarge upon this matter on his return from the institute convention.

The following members were elected as delegates to the National convention at Washington and New York in April: John Galen Howard, John Blakewell, Jr., Wm. C. Hays, Louis C. Mullgardt, Arthur Brown, Jr., W. R. Yelland and John J. Donovan. The remaining institute members of the chapter were included in the motion as alternates.

The meeting was arranged in honor of the visiting sculptors to the All-American Exposition of Sculpture to be held at the Palace of the Legion of Honor in San Francisco, beginning April 27th.

The first speaker was Edgar Walter, who embodied in his remarks the purpose and value of the exposition and praised the undertaking made possible by the beneficence of Archer Huntington. From it, he predicted that there will result a closer bond between the allied arts, when the architect will not hesitate to call for the services of the sculptor, and when the sculptor will be inclined to make his work more architectural.

Henry Hering was introduced as one of the visiting guests, and told of the months that have already been spent in preparation for the exposition in order to select the 1300 pieces of art that will be shown, and expressed his appreciation of the honor of being present.

Leo Lentelli, who was next presented, is no stranger, and he recalled his former stay in San Francisco at the time of the Panama Pacific Exposition and the pleasure it now afforded him in renewing old acquaintances.

Spencer Macky chose to tread upon the architects' toes, with apologies well taken, and plead for them to show more courage and dare to entrust the decoration of their buildings to the artist and sculptor, instead of copying a piece of old Greek art from their books to be turned over to a commercial modeler for execution.

Arthur Brown, Jr., was presented, not as a fellow architect but as the president of the San Francisco Art Association. He told of the development of public interest in the fine arts and shared the hope that this favorable reaction will afford such a stimulus to artists that it will arouse the public to even higher appreciation of their work.

Warren Perry, Director of the School of Architecture at the University of California, expressed for the chapter its appreciation of the broad feeling and alliance that exists between the arts. He emphasized the effect it is now having on the students at the school, where the trend appears to be "going modern," as the classic orders are subserviated in favor of a newer expression. He believed that the sculptural exposition embodied the creation of a more tolerant feeling between the allied arts and stressed that "when artists forget their frames, when sculptors forget their pedestals, and architects their vignolas, then the architect becomes more sculptural, the sculptor more architectural, and the painter both."

In keeping with the sentiment expressed throughout the evening, Frederick H. Meyer thought that the opportunity should not be overlooked to more firmly cement it into a common bond of fellowship which would work to the accomplishment of a higher art feeling in the community. He offered a motion, which, with an amendment proposed by Mr. Evers, was unanimously carried, that a committee of the chapter confer with the other art groups and associations to formulate and perfect a Federation of Art for San Francisco.

SOUTHERN CALIFORNIA CHAPTER

At the March meeting of Southern California Chapter, American Institute of Architects, held at the Nikabob Cafe, Ninth street and Western avenue, Beach D. Lyon read a paper which had been prepared by Louis P. Clark, manager of the Subway Terminal office building, entitled, "Height-Limit

versus Earnings of Office Buildings." Mr. Clark stated that it is impossible to erect an office building in Los Angeles under the present building ordinances on property which exceeds $12,000 per front foot in value and expect a revenue commensurate with the risk and investment involved. In Los Angeles the limit of rentable floor area possible in an office building is eight square feet per square foot of ground area. Comparing this with 25 in New York City, Mr. Clark added, it is easy to understand how investments in Los Angeles office building securities are not as stable as those in other cities.

A. L. Pickens, entomologist, who has been retained by several large California companies to investigate the damage being done by termites on the Pacific coast, gave an interesting talk on that subject, describing the damage being done by the ants and offering remedies for destroying them.

LONG BEACH CLUB

The Architectural Club of Long Beach, at their recent meeting at the Pacific Coast Club, elected the following officers to serve during the current year: President, Natt Piper; Vice-President, George W. Kahrs; Secretary-Treasurer, Joseph H. Roberts.

A vote of thanks was given by the club to the retiring president Earl Bobbe, and to the re-elected secretary, for their efficient services on behalf of the club during the past year.

The club has taken an active part in promoting the pending legislation, known as Senate Bill 177, now before the State Legislature, and is also deeply interested in the proposed Uniform Building Code for the Pacific Coast, now before the City Council of Long Beach, for adoption.

It is proposed that the club issue Certificates of Merit, in the various divisions of architectural work, patterned somewhat after the A. I. A. system of Honor Awards. These certificates are to be granted annually for the best examples of architectural design executed in the City of Long Beach. It is expected that they will be limited entirely to local firms, but certificates will also be granted to the owners and contractors of the selected designs.

BERKELEY RESIDENCE

Construction has started on a two story English type residence at Sheffield street and McKillop Road, Berkeley, for J. E. Rich. The plans were prepared by Henry H. Gutterson, architect, 526 Powell street, San Francisco.

LOS ANGELES ARCHITECTURAL CLUB

Obvious "kidding," combined with an undercurrent of serious consideration of this "modern" trend in art and architecture, marked the March meeting of the Los Angeles Architectural Club, held in the Architects' Building on the 19th. The large attendance, attracted by the notice that an open forum would be held, showed the great interest in this subject, stimulated by the speakers at the last meeting.

The two extremes of opinion were expressed by H. Roy Kelley, architect, and F. K. Ferenz, director of the Academy of Modern Art. The former read a satirical paper, "The Evils of Modern Art," in which he ridiculed some local examples of this movement as well as the arguments of most modernists. Mr. Kelley's paper is printed in part on another page.

F. K. Ferenz chose for his subject "Pity the Old Fashioned Architect." Proceeding on the assumption that most architects are a flock of sheep "shackled to precedent," he blamed them for always following in the footsteps of others, creating nothing new or different to reflect the moving spirit of the times. In fact, he, contrary to Mr. Kelley, felt that the crime lay on the side of the traditionalists, who "hamper progress." He explained this charge by saying that "We have furniture created in the modern spirit, but no place to put it. It is out of place in the monstrosities of artifice which characterizes the architecture of the past."

Varying between these two were the opinions of other architects, sculptors and decorators. Charles Kyson, from the Architects' League of Hollywood, considered the problem from the standpoint of modern design in motion-picture sets, stating that the cinema is largely responsible for the change in the public's taste.

Between the two extremes stood Roger Noble Burnham, sculptor. Defining art as "man moulding nature according to his tastes," Mr. Burnham pointed out the desire of the modernist to "reduce to a science the instinct for harmony." And he felt that the basis of modern art design was working outward from the structure.

In sympathy with this viewpoint was Herman Sachs, modern decorator, who pointed out the chief aim of the modern artist—honesty of design. And one achieves that only by letting his material govern him.

A staunch defense of the conservative architect was made by Julian Garnsey, who objected strenuously to

the statement that most architects' talent lay only in their ability to copy older forms. And he argued that if the modernists are not taking their designs direct from Europe, they are copying from each other in this country, otherwise how can one account for the fact that the styles are all more or less identical.

The general discussion became increasingly warm until the president closed the meeting, inviting inspection of the Modern Arts Exhibition. The Academy of Modern Arts was represented by Richard J. Neutra, with architectural designs, and by Jock Peters, with modern interiors, furniture and motion-picture set designs. Feil and Paradise exhibited both interior and exterior designs and J. R. Davidson displayed a group of his store fronts and interior sketches. Modern painting was represented by Conrad Buff and sculpture by George Stanley. Modern home furnishings were exhibited by Bullocks and Vogue in homes, and Claycraft Potteries showed some of their modern tile designs. "Panel of the Sun" by Julian Garnsey, displayed the effect of the modern spirit on mural painters. Modern residential design was represented by R. M. Schindler.

SKETCH FOR HYDRO-ELECTRIC STATION
By Ronualdo Blas

SAN FRANCISCO ARCHITECTURAL CLUB

The April business meeting with President Harry Langley presiding was the most stormy one in years. It seems that the president has in mind building up an entirely new club. The nucleus of the new structure will be what is left of the old after discarding the dead wood that has accumulated in the last ten years.

The first step has been to suspend all members who have not paid their dues for the last six months.

The next step has been to make an entirely new set of by-laws so that the new improvements can legally be carried out.

The most important move has been a new classification for the older members. So that the club may still hold them and benefit by their experience of past years the dues for this classification will be reduced.

The stormy session centered around the pink slips which were sent to all members. These slips were sent not as a warning to law abiding members but to inform them of what the club is doing. Some members objected to the wording.

Ira's picnic will be held this year at the Saratoga Park, May 19th. Each year a larger crowd goes down. This event should take in the entire club.

Have you noticed the new improvements in the atelier? The library and the foyer and the new ceiling in the draughting room? There is no excuse for the members to work at home now with the place cleaned up.

Certain classes will be suspended during the summer months in order to permit Ron Blas' new class in design to organize. Information on this class may be obtained at the club rooms.

Thursday lunches will be held in new quarters to be announced later There were twenty-five present at the last luncheon. A. N., Jr.

WASHINGTON STATE CHAPTER

These are the new officers elected by Washington State Chapter, A. I. A., at its annual meeting in February:

President, Sherwood D. Ford; 1st Vice-President, F. A. Naramore; 2nd Vice-President, Herbert A. Bell; 3rd Vice-President, G. Albin Pehrson; Secretary, J. Lister Holmes; Treasurer, A. M. Allen.

Member of the Executive Committee for three years, Arthur P. Herrman; for one year, A. H. Albertson.

Delegates to the Institute convention in addition to the president and secretary ex-officio, A. M. Allen, Roland E. Borhek and Harlan Thomas.

The meeting concluded with the initiation of two new members—Lance E. Gowen and Kepler B. Johnson.

* * *

The committee having in charge the entertainment at the annual meeting was the regular committee on program consisting of Arch N. Torbitt, Chairman; William J. Bain, Roland E. Borhek, Daniel R. Huntington and Meredith Jones.

The out-of-town Chapter members present at the annual meeting included Vice-President Pehrson with Mrs. Pehrson of Spokane, Stanley A. Smith of Pullman, Fred J. Rounds of Chehalis, Franklin Cox Stanton of Olympia, F. Stanley Piper of Bellingham, John W. Maloney of Yakima and Roland E. Borhek, George Gove, M. J. Morrison, Ernest T. Mock and A. J. Russell of Tacoma.

* * *

The March meeting of the chapter was held at the College Club, Thursday, the 7th, the members exchanging greetings in the living room of the club pior to the dinner at six-thirty, the business meeting following directly after the dinner.

President Ford announced that in the absence of the expected entertainment which had not materialized, he would offer two alternatives to the members present, one to take advantage of an arrangement that had been made with the Seattle Art Institute to visit its galleries and view a collection of drawings made by the late Bertram Grosvenor Goodhue; the other to remain at the dinner table and devote the evening to a discussion of various questions of professional and chapter interests. The members appeared to favor a visit to the Art Institute where, in addition to the Goodhue drawings, an opportunity was given to accept the invitation of John Graham to see some interesting sculpture being modeled for the 91st Division Memorial of which he is the architect. The business meeting was therefore expedited with this in view.

Communications read by the secretary included one from Professor Harlan Thomas, head of the Architectural Department, University of Washington, asking if the chapter desired to again contribute to the Fontainbleau Scholarship. The meeting voted a contribution of $100.00, the same as last year. A letter was also read from Gustav G. Huppte of Spokane, one of the recipients of a craftsmanship certificate from the chapter at the annual meeting, Mr. Huppte expressing his appreciation for the honor conferred upon him. Prompted by this letter, Mr. Allen read an article on "What is a Good Craftsman?"—suggesting that this might be used by the chapter in connection with its award of craftsmanship certificates.

SKYSCRAPER APARTMENTS

Long Beach has a new reason for its civic pride; a towering reason, founded upon a cliff near the ocean. It is none other than the Casa Riviera, 14-story apartment building. A beautiful structure of imposing grace and architectural design, it unquestionably is one of the notable structures now adorning East Ocean avenue, in Long Beach. Protection of the structure against sea erosion is provided by a two-story garage on pile foundations. Richard D. King, of Los Angeles, is the architect and Kinne & Westerhouse, Los Angeles, the general contractors. The Hammond Lumber Company of Long Beach furnished approximately 45,000 sacks of Victor Portland cement for the building.

CASA RIVIERA APARTMENTS, LONG BEACH
Richard D. King, Architect

THE EVILS OF MODERN ART*

By H. Roy Kelley, A. I. A.

AT Gus Hales' recent revival meeting I got religion. I was converted to modernism. Kem Weber and Arthur Millier made a Christian out of me. I came here a raging Saul of Tarsus. I left a meek and humble St. Paul. This was brought about by the eloquence and subtle arguments of Weber and Millier and the inability of Julian Garnsey and Pierpont Davis to cope with the situation. I was forced to behold the light and see the evils of my ways. But meanwhile I have had time to reflect—the intoxication has worn off, and I want to say that I am here tonight to be converted all over again.

At the last meeting I, personally, gave a very illuminating address (several members later accused me of being just as illuminated as my subject, but this was not true). In order to more clearly explain my change of heart it will be necessary first to give a short tiresome review of the speakers at the last meeting and briefly outline their remarks.

Pierpont Davis, I think, was the first speaker. The next speaker was Kem Weber. His remarks were most colorful. He was followed by Arthur Millier and then came William Lee Woollett. He told how he happened to turn modern. There was a lot of his talk I could not exactly understand—for instance, one place where he referred to arithmetic going up and down. I take it, he referred to the stock market. At any rate, the story of his conversion to modernism was very interesting. It seems that many years ago he saw a modern painting. It was supposed to be a nude lady falling down a stairway, but he said it looked like Aunt Mary tossing a horse collar from a second story window. That gave him an inspiration. He woke up one night, all excited. He went out and bought $400 worth of modeling clay and then tried to find a statue of Venus de Milo. He could not find one in very good condition, so had to take a second-hand one. It was in rather bad shape, the arms had been broken off, but nevertheless he took it home and then set diligently to work trying to copy it. He didn't get any farther than the head—that was as far as he dared to go at home. After four months' attempt to model a head of Venus de Milo he finally produced something that looked like a cross between a head of cabbage and a nightmare. That's how he discovered and became interested in modern art. And after all, is that not typical of modern art? It's very much in line with modern tendencies in general. They don't know what they want. They can't get what they want, but they take what they can get and call it modern.

Julian Garnsey started his speech by insulting me and then went on to say that he could do anything—modern or ancient—and what's more, he did it. He did ancient art, modern art, astral art, plastic art—any kind of art. He also said that when he took a trip to New York he preferred to ride a horse rather than an aeroplane. Now, I can't see any arguments in favor of modern architecture here. There were no logical ones advanced the other night. The trouble with the modernists is they are not logical or consistent. They twist meanings and things around to suit themselves. Take Lloyd Wright for instance. We looked for big things from him. When he got up to speak a hush fell over the entire room. Everyone moved forward to the edge of his seat, and we all thought—"Well, here is the answer to the riddle." But he was a bitter disappointment. He merely said it was high time we should be doing something. He did not make it clear exactly what we should be doing, but he seemed certain something should be done about it. Now that bears out exactly what I have said about the moderns twisting things around because that is exactly the remark I have heard made time and again by many people, after viewing some of this modern work.

Kem Weber in his remarks stated that we had not kept pace with our mechanical and scientific age. When he goes to New York he rides in an aeroplane. He called attention to the entirely different aspect one gets of things from an aeroplane, how different things look from that point of view, and how much inspiration there is in it for modern art. That was one place I was able to follow him. My first aeroplane ride was a trip over Paris during the war with a young aviator who got me up in the air and then told me he was Napoleon. He was like Garnsey. He did anything. I agree with Weber that things do look different from the air. I saw Paris in a way I never hope to see it again—that indeed was inspiration for modern art—in fact, I had great difficulty in keeping my inspiration in check and I had an overwhelming desire to decorate the whole city of Paris with modern art.

Now the test of the pudding is in the eating. I've tried to be broad minded and open to conviction. I've delved into the subject of modern architecture. I have been led to observe more than I did—have become more tolerant. I have watched the trend with an awakened interest. What I have seen has shown me, however, that the modern movement is typical and in line with the general restlessness and uncertainty of

*Part of a satirical paper read by Mr. Kelley at an open forum of the Los Angeles Architectural Club.

this age. Still I don't see why it should be necessary to commit mayhem on a building in order to be considered modern. Of course, that is quite modern in crime, and after all modern art and modern crime, perhaps, bear a closer relationship than some of us suspect.

The modernists are unwilling to accept the established order of things. They want something different —still they don't know what they want and are not satisfied when they get it. Take as an example a new store building under construction in our fair city. I have watched the development of this building with keen interest. Strictest secrecy has surrounded the identity of the architect. I have heard numerous rumors as to his identity but I don't care to be involved in a libel suit so I won't mention any names. His inspection visits are usually at sun-rise, and for added safety he is usually disguised one day with a long beard and the following day as an old lady. Recently he has rented a vacant office on the second floor of an opposite building from which point, by an elaborate system of signals, he directs the carrying out of numerous experiments with color schemes. Every day this building takes on a new costume and new jewelry. It is as fickle and changable as the modern flappers, and just as modern, with its painted lips and penciled eyebrows. I have watched its manicuring and application of make up with keen interest. Still it's all dressed up and no place to go, the old school has cast it out and the modernists won't take it in.

Take me back to the good old days when a wooden Indian marked the spot of a tobacco shop. We didn't know what he was there for, but we at least had the satisfaction of knowing what we were looking at and we knew that was a tobacco shop. It could not be anything else. Today you cannot tell a branch bank or a building loan office from a curiosity shop or a cigar store. And then take the drug store. In the good old days every drug store always had glass jars of brilliant red, green or blue in their windows—that was the sure sign of a drug store, one could never miss it. Today there is only one way by which a drug store can be distinguished and soon there will be no way left by which to tell a drug store.

Now Kem Weber says that modern art is a matter of feeling, and if we do not feel it we cannot do it. In other words, one should do as he feels. That is all very well, but a lot of us have tried that and got into a devil of a mess—so my advice to Kem is to be careful.

In closing I'd like to ask the modernists just one question—How in —— do you get in or out of a modern bath tub?

THE LIGHTING FIXTURES OF THE SANTA BARBARA BILTMORE HOTEL

By James Meyberg

OCCASIONALLY those who are best qualified to know select some particular building as an outstanding example of beauty in architecture. Beauty is obvious but how few realize the forces that combine to achieve that quality. To the architect of a great building falls the responsibility of bringing the outside and inside into one harmonious and beautiful ensemble. Reginald Johnson must have given each department a definite measure of thought when he planned the Santa Barbara Biltmore. Every detail seems to have fallen under the specialist's supervision. The matter of artificial lighting, for example, reflects much study and planning.

Lighting fixtures, to fulfill their purpose, must serve two ends and both equally well. The primary aim is, of course, light, which must be properly distributed and of just the right quality. The second aim is good design. By design we mean not only style but line, shape, size, workmanship and finish.

It has been truly said that the good designer must have fully familiarized himself with ornament and then learned to discard most of it. So much of a technical nature enters into the design and making of lighting fixtures that the architect is dependent to a considerable extent upon the knowledge and experience of these specialists.

Great care must be exercised in creating a design that not only is in harmony with the architecture of the building, but effective from an illuminating standpoint. It is as great an error to provide too much light as too little; it is as unwise to have too large a fixture as too small a one; it is as serious a mistake to provide too much ornament as no ornament at all, and there is still left the matter of workmanship and finish. Mr. Johnson made it possible for the lighting fixture designer to do his work through a judicious placing and numbering of outlets.

The main rooms of the Biltmore hotel are lighted with one center chandelier and a number of wall brackets. Through this method the chandelier becomes a thing of beauty that it would not be if the same fixture were to be repeated several times in the same room. Yet in many buildings we are accustomed to see whole rows of chandeliers. If the lighting fixtures in the Santa Barbara Biltmore so illuminate the architect's work as to show it at its best, and if they within themselves have helped even a little to the realization of the architect's dream of loveliness, then they have fulfilled the purpose for which they were made.

NEW DOOR FOR HANGARS

A special door for airplane hangars in which limited space is available for operation of the door units in opening and closing has been developed and is being manufactured by the Truscon Steel Company of Youngstown, Ohio.

This door is applicable to any kind of hangar construction, and is not limited to Truscon standard and steel hangars. It may be used on any size of door opening.

Because of their simple construction, there is no upkeep expense to these doors. Barring accident, they will give constant service as long as the building lasts.

In addition to these specialized hangar doors, the Truscon Steel Company also manufactures steel roof decks of light weight, which, insulated and waterproofed, are widely used on all kinds of hangars.

SCREEN CASEMENTS

"Fenestra Screen Casements" is a folder published by the Detroit Steel Products Company describing the advantages of the new Fenestra casement that comes equipped with a screen. For the first time it is possible to use a flat all metal screen fastened directly to the inside of the casement, entirely independent of the window trim. The folder describes how this is accomplished, the types and sizes of screens and the few changes that have been made in the hardware.

Write the Detroit Steel Products Company, 2250 East Grand Boulevard, Detroit, Michigan for this folder.

CONCRETE BRIDGES

The Portland Cement Association, 33 West Grand avenue, Chicago, has published an attractive and well illustrated booklet, "Concrete Bridges," for distribution among engineers, civic and town councils and chambers of commerce where bridge construction is under consideration.

The Portland Cement Association offers the benefit of the experience of its technical staff in problems having to do with the use of concrete. Address the nearest office of the Association, or general headquarters, 33 West Grand Avenue, Chicago, for information and copies of the booklet, "Concrete Bridges."

SHOPS FOR HOTEL

A contract has been let for alterations to the St. Francis Hotel, San Francisco, totaling $160,000. The improvements will provide for seven shops on the Geary Street side of the Hotel, from plans by W. B. Faville, architect.

MARBLE COMPANY EXPANDS

The Vermont Marble Company has acquired an interest in the Colorado Yule properties at Marble, Colorado, and has undertaken their management and formed a new corporation known as the Yule Colorado Marble Company. Mr. F. C. Partridge, president, and Mr. A. W. Edson, treasurer of the Vermont Marble Company, are also president and treasurer of the new corporation. The Vermont Marble Company is to be the sole agent of the Yule Colorado Marble Company. The general manager of the Yule Colorado Marble Company is Mr. H. S. Hobart, who was formerly general superintendent of mills for the Vermont Marble Company at Proctor, Vermont.

Yule Colorado marble has been used in some of the country's most imposing buildings, such as the Lincoln Memorial at Washington, and just now the Huntington Memorial is being completed at Pasadena out of this material. There are innumerable examples of this material's fitness for building work, both exterior and interior, in all the leading cities on the Pacific Coast.

NEW STEEL WINDOW

A new light weight double hung steel window for use in light industrial buildings, hospitals, office buildings, hotels, post offices, banks and all types of monumental structures is announced by the Truscon Steel Company of Youngstown, Ohio, manufacturers of a complete line of permanent building products.

The new window incorporates spring bronze weather-stripping on all sides and at the meeting rails, insuring positive weathertightness and a minimum of air filtration. It combines large glass area with light weight and the slender, graceful lines which characterize all steel windows.

IMPROVED CONVEYING EQUIPMENT

Richards-Wilcox Manufacturing Company, Aurora, Ill., have just completed a new catalog entirely devoted to Over-Way Conveying Equipment. This edition is known as Catalog No. 50 and contains 192 pages replete with valuable tables, plans of actual installations and many half tones and letters of recommendation. Equipment of this kind is being specified more and more by architects and the company would be glad to send anyone interested a copy of this book upon request.

BRICK VENEER GYMNASIUM

The office of W. H. Weeks, San Francisco and Oakland, is preparing plans for a $40,000 brick veneer gymnasium for the Turlock High School District.

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BOOK REVIEWS

THE DOMESTIC ARCHITECTURE OF ENGLAND (During the Tudor Period). By Thomas Garner and Arthur Stratton. Second edition, revised and enlarged. Published by Charles Scribner's Sons, New York. Two volumes; price $65.00. Folio size, wide margined, cut, bound in crimson buckram; illustrated with measured drawings and photographs.

Two very beautifully arranged books containing the gems of English Tudor architecture. The prefatory notes are by Arthur Stratton, Fellow of The Royal Institute of British Architects. The photography is superb and the measured drawings are beautifully executed. On the whole, these books offer the architect a history of English architecture as well as providing him with examples in the Tudor style not to be found generally.

Volume I contains, besides the prefatory notes, a topographical index arranged under counties, an index to descriptive text illustrations and an introduction and short historical account of the buildings illustrated. The subjects of Volume I are "Stone Houses" and "Brick Houses."

Volume II has the same arrangement and for subject matter, are discussed with many fine plates and details, including windows, gateways, doorways, roofs, leadwork, etc.

METAL CRAFTS IN ARCHITECTURE, by Gerald K. Geerlings. Published by Charles Scribner's Sons, New York. Price $7.50.

A book covering bronze, lead, brass, cast iron, tin and copper in their relation to architecture from the decorative standpoint. There is a history of each metal and a discourse on the essentials of casting. The outstanding feature of this volume, however, is the superb photography. For example, figure 57, showing the lower left section of the doors of St. Peter's in Rome. The exquisite detail is so brought out and the feeling so expressed as to make one almost feel the cold bronze rather than the printed page.

Ancient work in metal is described and there is modern metal treatment with appropriate photographs.

AMONG the assets and the pleasures of our business we count none more important than the contacts and the confidence we have enjoyed with architects during our twenty-three years of operation. It was particularly gratifying recently to work with Mr. Reginald Johnson in connection with some exceptionally fine residential construction in Montecito—where we assumed responsibility for the design, execution and installation of this splendidly modern suite of English design. It is but one of a line of similar custom-built suites executed by this company for the finer class of home. ***Catalog on request.***

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Amounts quoted are figuring prices and are made up from average quotations furnished by material houses to three leading contracting firms of San Francisco.

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and southern part of the state. Freight cartage, at least, must be added in figuring country work.

Overtime in wage scale should be credited with time and a half, Sunday and holidays double.

Bond—1½% amount of contract.

Brickwork—
Common, $33 to $35 per 1000 laid.
Face, $100 per 1000 laid.
Brick Steps, using pressed brick, $1.10 lin. ft.
Brick Walls, using pressed brick on edge, 68c sq. ft. (Foundations extra.)
Brick Veneer on frame buildings, 70c sq. ft.
Enamel, $120.00 per 1000 f.o.b. cars.
Common, f.o.b. cars, $14.50 plus cartage.
Face, f.o.b. cars, $50.00 per 1000, carload lots.

HOLLOW TILE FIREPROOFING (f.o.b. cars in carload lots).

3x12x12 in.	$ 96.00 per M
4x12x12 in.	108.00 per M
6x12x12 in.	156.00 per M
8x12x12 in.	240.00 per M

Rebate 10% cash 10 days.

HOLLOW BUILDING TILE (f.o.b. cars in carload lots).

8x12x5½	$100.00
6x12x5½	74.00

Composition Floors — 18c to 30c per sq. ft. In large quantities, 18c per sq. ft. laid.
Rubber Tile—70c per sq. ft.

Terazzo Floors—50c per sq. ft.
Terazzo Steps—$1.50 per lin. ft.
Mosaic Floors—80c per sq. ft.

Concrete Work (material at San Francisco bunkers) — Quotations below 2000 lbs. to the ton.

No. 3 rock, at bunkers	$1.40 per ton
No. 4 rock, at bunkers	1.40 per ton
Eliott pea gravel, at bnkrs.	1.40 per ton
Washed gravel, at bnkrs.	1.40 per ton
Eliott top gravel, at bnkrs.	1.40 per ton
City gravel, at bunkers	1.40 per ton
River sand, at bunkers	1.00 per ton
Delivered bank sand	1.00 cu. yd.

Note—Above prices are subject to discount of 10c per ton on invoices paid on or before the 15th of month, following delivery.

SAND
Del Monte, $1.75 to $3.00 per ton.
Fan Shell Beach (car lots, f.o.b. Lake Majella), $2.75 to $4.00 per ton.
Cement, $2.51 per bbl. in paper sks.
Cement (f.o.b. Job, S.F.), $2.71 per bbl.
Cement (f.o.b. Job, Oak.), $2.71 per bbl.
Rebate of 10 cents bbl. cash in 15 days.
Atlas "White" .....$ 8.50 per bbl.
Forms, Labors average 22.00 per M.
Average cost of concrete in place, exclusive of forms, 28c per cu. ft.
4-inch concrete basement floor.....13c to 14c per sq. ft.
4½-inch concrete basement floor.....14c to 15c per sq. ft.
2-inch rat-proofing.....6½c per sq. ft.
Concrete Steps.....$1.26 per lin. ft.

Dampproofing—
Two-coat work, 20c per yard.
Membrane waterproofing—4 layers of saturated felt, $5.00 per square.
Hot coating work, $2.00 per square.

Electric Wiring — $3.00 to $9.00 per outlet for conduit work (including switches).
Knob and tube average $2.25 to $5.00 per outlet, including switches.

Elevators—
Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing an automatic elevator in four-story building, $2700; direct automatic, about $2600.

Excavation—
Sand, 70 cents; clay or shale, $1.25 per yard.
Teams, $10.00 per day.
Trucks, $21 to $27.50 per day.
Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

Fire Escapes—
Ten-foot balcony, with stairs, $65.00 per balcony.

Glass (consult with manufacturers)—
Double strength window glass, 15c per square foot.
Quartz Lite, 50c per square foot.
Plate, 75c per square foot.
Art, $1.00 up per square foot.
Wire (for skylights), 27c per square foot.
Obscure glass, 25c per square foot.
Note—Add extra for setting.

Heating—
Average, $1.70 per sq. ft. of radiation, according to conditions.

Iron—Cost of ornamental iron, cast iron, etc., depends on designs.

Lumber (prices delivered to bldg.site)
Common, $27.00 per M (average).
Common O. P. select, average, $34.00 per M.

1 x 6 No. 3 Form lumber	$21.00 per M
1 x 4 No. 1 flooring	50.00 per M
1 x 4 No. 2 flooring	46.00 per M
1 x 4 No. 3 flooring	38.00 per M
1 x 6 No. 2 and better flooring	45.00 per M
1¼ x 4 and 6 No. 2 flooring	53.00 per M

Slash grain—

1 x 4 No. 2 flooring	38.00 per M
1 x 4 No. 3 flooring	36.00 per M
No. 1 common run to T. & G.	30.00 per M
Lath	6.00 per M

Shingles (add cartage to prices quoted)—

Redwood, No. 1	$ .90 per bdle.
Redwood, No. 2	.75 per bdle.
Red Cedar	.90 per bdle.

Hardwood Flooring (delivered to building)—

13-16x3¼" T & G Maple	$135.00 M ft.
1 1-16x2¼" T & G Maple	145.50 M ft.
⅞x3½ sq. edge Maple	132.50 M ft.

	13-16x2¼" T&G	⅜x2" T&G	5-16x2" Sq. Ed.
Clr. Qtd. Oak	$220.00 M	$160.00 M	$178 M
Sel. Qtd. Oak	150.00 M	122.00 M	131 M
Clr. Pla. Oak	155.00 M	110.00 M	113 M
Sel. Pla. Oak	132.00 M	79.00 M	97 M
Clear Maple	147.00 M	101.00 M	
Laying & Finishing	16c ft.	15c ft.	13c ft.

Wage—Floor layers, $9.00 per day.

Building Paper—

1 ply per 1000 ft. roll	$4.00
2 ply per 1000 ft. roll	6.00
3 ply per 1000 ft. roll	9.25
Sash cord com. No. 7	$ 1.05 per 100 ft.
Sash cord com. No. 8	1.20 per 100 ft.
Sash cord spot No. 7	1.75 per 100 ft.
Sash cord spot No. 8	1.10 per 100 ft.
Sash weights cast iron	57.00 ton

Nails, $3.25 base.
Belgian nails, $3.00 base.

Millwork—
O. P. $87.50 per 1000. R. W., $105.00 per 1000 (delivered).
Double hung box window frames, average, with trim, $7.00 and up, each.
Doors, including trim (single panel, 1¾ in. Ore. pine) $7.50 and up, each.
Doors, including trim (five panel, 1¾-in. Oregon pine) $6.50 each.
Screen doors, $3.50 each.
Patent screen windows, 30c a sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., $7.00 each.
Dining room cases, $8.00 per lineal foot.
Labor—Rough carpentry, warehouse heavy framing (average), $12.00 per M.
For smaller work, average, $25 to $32 per 1000.

Marble—(Not set), add 50c to 65c per ft. for setting.

Alaska	$1.40 sq. ft.
Columbia	1.40 sq. ft.
Golden Vein Yule Colo.	1.70 sq. ft.
Pink Lepanto	1.50 sq. ft.
Italian	1.75 sq. ft.

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BOOK REVIEWS

THE DOMESTIC ARCHITECTURE OF ENGLAND (During the Tudor Period). By Thomas Garner and Arthur Stratton. Second edition, revised and enlarged. Published by Charles Scribner's Sons, New York. Two volumes; price $65.00. Folio size, wide margined, cut, bound in crimson buckram; illustrated with measured drawings and photographs.

Two very beautifully arranged books containing the gems of English Tudor architecture. The prefatory notes are by Arthur Stratton, Fellow of The Royal Institute of British Architects. The photography is superb and the measured drawings are beautifully executed. On the whole, these books offer the architect a history of English architecture as well as providing him with examples in the Tudor style not to be found generally.

Volume I contains, besides the prefatory notes, a topographical index arranged under counties, an index to descriptive text illustrations and an introduction and short historical account of the buildings illustrated. The subjects of Volume I are "Stone Houses" and "Brick Houses."

Volume II has the same arrangement and for subject matter, are discussed with many fine plates and details, including windows, gateways, doorways, roofs, leadwork, etc.

METAL CRAFTS IN ARCHITECTURE, by Gerald K. Geerlings. Published by Charles Scribner's Sons, New York. Price $7.50.

A book covering bronze, lead, brass, cast iron, tin and copper in their relation to architecture from the decorative standpoint. There is a history of each metal and a discourse on the essentials of casting. The outstanding feature of this volume, however, is the superb photography. For example, figure 57, showing the lower left section of the doors of St. Peter's in Rome. The exquisite detail is so brought out and the feeling so expressed as to make one almost feel the cold bronze rather than the printed page.

Ancient work in metal is described and there is modern metal treatment with appropriate photographs.

AMONG the assets and the pleasures of our business we count none more important than the contacts and the confidence we have enjoyed with architects during our twenty-three years of operation. It was particularly gratifying recently to work with Mr. Reginald Johnson in connection with some exceptionally fine residential construction in Montecito—where we assumed responsibility for the design, execution and installation of this splendidly modern suite of English design. It is but one of a line of similar custom-built suites executed by this company for the finer class of home. ***Catalog on request.***

THE ENGLISH LAVATORY SUITE

One of a series of bathroom ensembles designed and manufactured (patents applied for) in our shops at 1002 Santa Fe Ave., Los Angeles.

PACIFIC PIPE & SUPPLY CO.

Estimator's Guide

Giving Cost of Building Materials, Wage Scale, Etc.

Amounts quoted are figuring prices and are made up from average quotations furnished by material houses to three leading contracting firms of San Francisco.

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and southern part of the state. Freight cartage, at least, must be added in figuring country work.

Overtime in wage scale should be credited with time and a half, Sunday and holidays double.

Bond—1½% amount of contract.

Brickwork—
Common, $33 to $35 per 1000 laid.
Face, $100 per 1000 laid.
Brick Steps, using pressed brick, $1.10 lin. ft.
Brick Walls, using pressed brick on edge, 68c sq. ft. (Foundations extra.)
Brick Veneer on frame buildings, 70c sq. ft.
Enamel, $120.00 per 1000 f.o.b. cars.
Common, f.o.b. cars, $14.50 plus cartage.
Face, f.o.b. cars, $50.00 per 1000, carload lots.

HOLLOW TILE FIREPROOFING (f.o.b. cars in carload lots).

3x12x12 in.	$ 96.00 per M
4x12x12 in.	108.00 per M
6x12x12 in.	156.00 per M
8x12x12 in.	240.00 per M

Rebate 10% cash 10 days.

HOLLOW BUILDING TILE (f.o.b. cars in carload lots).

8x12x5½	$100.00
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Composition Floors — 18c to 30c per sq. ft. In large quantities, 18c per sq. ft. laid.
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Eliott top gravel, at bnkrs.	1.40 per ton
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River sand, at bunkers	1.00 per ton
Delivered bank sand	1.00 cu. yd.

Note—Above prices are subject to discount of 10c per ton on invoices paid on or before the 15th of month, following delivery.

SAND
Del Monte, $1.75 to $3.00 per ton.
Fan Shell Beach (car lots, f.o.b. Lake Majella), $2.75 to $4.00 per ton.
Cement, $2.51 per bbl. in paper sks.
Cement (f.o.b. Job, S.F.), $2.71 per bbl.
Cement (f.o.b. Job, Oak.), $2.71 per bbl.
Rebate of 10 cents bbl. cash in 15 days.
Atlas "White" .....$ 8.50 per bbl.
Forms, Labors average 22.00 per M.
Average cost of concrete in place, exclusive of forms, 28c per cu. ft.
4-inch concrete basement floor.....13c to 14c per sq. ft.
4½-inch concrete basement floor.....14c to 15c per sq. ft.
2-inch rat-proofing....6½c per sq. ft.
Concrete Steps.....$1.26 per lin. ft.

Damppproofing—
Two-coat work, 20c per yard.
Membrane waterproofing—4 layers of saturated felt, $5.00 per square.
Hot coating work, $2.00 per square.

Electric Wiring — $3.00 to $9.00 per outlet for conduit work (including switches).
Knob and tube average $2.25 to $5.00 per outlet, including switches.

Elevators—
Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing an automatic elevator in four-story building, $2700; direct automatic, about $2600.

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Teams, $10.00 per day.
Trucks, $21 to $27.50 per day.
Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

Fire Escapes—
Ten-foot balcony, with stairs, $65.00 per balcony.

Glass (consult with manufacturers)—
Double strength window glass, 15c per square foot.
Quartz Lite, 50c per square foot.
Plate, 75c per square foot.
Art, $1.00 up per square foot.
Wire (for skylights), 27c per square foot.
Obscure glass, 25c per square foot.
Note—Add extra for setting.

Heating—
Average, $1.70 per sq. ft. of radiation, according to conditions.

Iron—Cost of ornamental iron, cast iron, etc., depends on designs.

Lumber (prices delivered to bldg.site)
Common, $27.00 per M (average).
Common O. P. select, average, $34.00 per M.

1 x 6 No. 3—Form lumber	$21.00 per M
1 x 4 No. 1 flooring	50.00 per M
1 x 4 No. 2 flooring	46.00 per M
1 x 4 No. 3 flooring	38.00 per M
1 x 6 No. 2 and better flooring	45.00 per M
1¼ x 4 and 6 No. 2 flooring	53.00 per M

Slash grain—

1 x 4 No. 2 flooring	38.00 per M
1 x 4 No. 3 flooring	36.00 per M
No. 1 common run to T. & G.	30.00 per M
Lath	6.00 per M

Shingles (add cartage to prices quoted)—

Redwood, No. 1	$ .90 per bdle.
Redwood, No. 2	.75 per bdle.
Red Cedar	.90 per bdle.

Hardwood Flooring (delivered to building)—

13-16x3¼" T & G Maple	$135.00 M ft.
1 1-16x2¼" T & G Maple	145.50 M ft.
⅞x3½ sq. edge Maple	132.50 M ft.

	13-16x2¼" T&G	⅜x2" T&G	5-16x2" Sq. Ed.
Clr. Qtd. Oak	$220.00 M	$160.00 M	$178 M
Sel. Qtd. Oak	150.00 M	122.00 M	131 M
Clr. Pla. Oak	155.00 M	110.00 M	113 M
Sel. Pla. Oak	132.00 M	79.00 M	97 M
Clear Maple	147.00 M	101.00 M	
Laying & Finishing	16c ft.	15c ft.	13c ft.

Wage—Floor layers, $9.00 per day.

Building Paper—

1 ply per 1000 ft. roll	$4.00
2 ply per 1000 ft. roll	6.00
3 ply per 1000 ft. roll	9.25
Sash cord com. No. 7	$ 1.05 per 100 ft.
Sash cord com. No. 8	1.20 per 100 ft.
Sash cord spot No. 7	1.76 per 100 ft.
Sash cord spot No. 8	1.10 per 100 ft.
Sash weights cast iron	57.00 ton

Nails, $3.25 base.
Belgian nails, $3.00 base.

Millwork—
O. P. $87.50 per 1000. R. W., $105.00 per 1000 (delivered).
Double hung box window frames, average, with trim, $7.00 and up, each.
Doors, including trim (single panel, 1¾ in. Ore. pine) $7.50 and up, each.
Doors, including trim (five panel, 1¾-in. Oregon pine) $6.50 each.
Screen doors, $3.50 each.
Patent screen windows, 30c a sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., $7.00 each.
Dining room cases, $8.00 per lineal foot.
Labor—Rough carpentry, warehouse heavy framing (average), $12.00 per M.
For smaller work, average, $25 to $32 per 1000.

Marble—(Not set), add 50c to 65c per ft. for setting.

Alaska	$1.40 sq. ft.
Columbia	1.40 sq. ft.
Golden Vein Yule Colo	1.70 sq. ft.
Pink Lepanto	1.50 sq. ft.
Italian	1.75 sq. ft.

Tennessee	1.70 sq. ft.
Verde Antique	3.00 sq. ft.

NOTE—Above quotations are for ⅞ inch wainscot in large slabs f.o.b. factory. Prices on all other classes of work should be obtained from the manufacturers.

Floor Tile—Set in place.

Verde Antique	$2.75 sq. ft.
Tennessee	1.60 sq. ft.
Alaska	1.35 sq. ft.
Columbia	1.45 sq. ft.
Yule Colorado	1.45 sq. ft.
Travertine	1.60 sq. ft.

Painting—

Two-coat work	30c per yard
Three-coat work	40c per yard
Whitewashing	4c per yard
Cold Water Painting	8c per yard

Turpentine, 93c per gal. in cans and 78c per gal. in drums.
Raw Linseed Oil.....95c gal. in bbls.
Boiled Linseed Oil.....98c gal. in bbls.

Carter or Dutch Boy White Lead in Oil (in steel kegs)

	Per. Lb.
1 ton lots, 100 lbs. net weight	11¾c
500 lb. and less than 1 ton lots	12c
Less than 500 lb. lots	12½c

Dutch Boy Dry Red Lead and Litharge (in steel kegs)

1 ton lots, 100 lb. kegs net weight	11¾c
500 lb. and less than 1 ton lots	12c
Less than 500 lb. lots	12½c

Red Lead in Oil (in steel kegs)

1 ton lots, 100 lbs. net weight	13¼c
500 lb. and less than 1 ton lots	13½c
Less than 500 lb. lots	14c

Note—Accessibility and conditions cause wide variance of costs.

Patent Chimneys—

6-inch	$1.00 lineal foot
8-inch	1.50 lineal foot
10-inch	1.85 lineal foot
12-inch	2.10 lineal foot

Pipe Casings — 14" long (average), $5.00 each.

Plastering—Interior—

	Yard
1 coat, brown mortar only, wood lath	$0.40
2 coats, lime mortar hard finish, wood lath	.52
2 coats, hard wall plaster, wood lath	.55
3 coats, metal lath and plaster	1.00
Keene cement on metal lath	1.25
Ceilings with ¾ hot roll channels metal lath	.67
Ceilings with ¾ hot roll channels metal lath plastered	1.40
Shingle partition ¾ channel lath 1 side	.62
Single partition ¾ channel lath 2 sides 2 inches thick	2.20
4-inch double partition ¾ channel lath 2 sides	1.30
4-inch double partition ¾ channel lath 2 sides plastered	2.45

Plastering—Exterior—

	Yard
2 coats cement finish, brick or concrete wall	$1.00
2 coats Atlas cement, brick or concrete wall	1.25
3 coats cement finish No. 18 gauge wire mesh	1.75
3 coats Atlas finish No. 18 gauge wire mesh	2.05

Wood lath, $6.00 per 1000.

2.5-lb. metal lath (dipped)	.17
2.5-lb. metal lath (galvanized)	.20
3.4-lb. metal lath (dipped)	.22
3.4-lb. metal lath (galvanized)	.27

¾-inch hot roll channels, $45 per ton.
Hardwall plaster, $15.40 ton; $12.95 in paper sacks (rebate 15c sack).
Finish plaster, $16.40 ton; in paper sacks, $13.85 (rebate 10c sack).
Dealer's commission, $1.00 off above quotations.
Hydrate Lime, $19.50 ton.
Lime, f.o.b. warehouse, $2.25 bbl.; cars, $2.15
Lime, bulk (ton 2000 lbs.), $16.00 ton.
Wall Board 5 ply, $43.00 per M.

Composition Stucco—$1.60 to 2.00 per sq. yard (applied).

Plumbing—
From $60.00 per fixture up, according to grade, quantity and runs.

Roofing—
"Standard" tar and gravel, $5.25 per square for 30 squares or over.
Less than 30 squares, $5.50 per sq.
Tile, $19.00 to $35.00 per square.
Redwood Shingles, $11.00 per square in place.
Cedar Shingles, $10.50 sq. in place.
Recoat, with Gravel, $3.00 per sq.

Sheet Metal—
Windows—Metal, $1.85 a sq. foot.
Fire doors (average), including hardware, $2.15 per sq. foot.

Skylights—
Copper, $1.35 sq. ft. (not glazed).
Galvanized iron, 30c sq. ft. (not glazed).

Stone—
Granite, average, $6.00 sq. foot in place.
Sandstone, average Blue, $3.50; Boise, $2.60 sq. ft. in place.
Indiana Limestone, $2.60 per sq. ft. in place.

Store Fronts—
Copper sash bars for store fronts, corner, center and around sides, will average 75c per lineal foot.
Note—Consult with agents.

Steel Structural—$97.50 per ton (erected). This quotation is an average for comparatively small quantities
Light truss work higher; plain beam and column work in large quantities, less.
Cost of steel for average building (erected), $93.00 per ton.

Reinforcing—
Base price for car load lots, $2.75 100 lbs., f.o.b. cars.
Average cost to install, $23 per ton.

Steel Sash—
All makes, from S. F. stock, 20c to 35c per square foot.
All makes, plant shipment, 22c to 35c per square foot.
(Includes mullions and hardware.)

Tile—White glazed, 75c per foot, laid.
White floor, 75c per foot, laid.
Colored floor tile, $1.00 per ft. laid.
Promenade tile, 80c per sq. ft., laid.

1929 WAGE SCHEDULES FOR SAN FRANCISCO BUILDING TRADES

EFFECTIVE APRIL 1

Craft	Journeymen Mechanics
Asbestos workers	$ 8.00
Bricklayers	11.00
Bricklayers' bodcarriers	7.00
Cabinet workers, (shop)	7.50
Cabinet workers, (outside)	9.00
Carpenters	9.00
Cement finishers	9.00
Electric workers	9.00
Electrical fixture hangers	8.00
Elevator constructors	10.00
Elevator helpers	7.00
Engineers, portable and hoisting	9.00
Glass workers	8.50
Hardwood floormen	9.00
Housemovers	8.00
Housesmiths, arch. iron, skilled all branches	9.00
Housesmiths, arch. iron, not skilled all branches	8.00
Housesmiths, reinforced concrete, or rodmen	9.00
Iron workers (bridge & structural) including engineers	11.00
Laborers, budding (6-day week)	5.50
Lathers, channel iron	10.00
*Lathers, all other	8.50
Marble setters	10.00
Marble helpers	6.00
Marble cutters and copers	8.00
Marble bed rubbers	7.50
Marble polishers and finishers	7.00
Millmen, planing mill department	7.00
Millmen, sash and door	6.00
Millwrights	8.00
Model makers	10.00
Model casters	9.00
Mosaic and Terrazzo workers	9.00
Mosaic and Terrazzo helpers	6.00
Painters	9.00
Painters, varnishers and polishers (shop)	7.50
Painters, varnishers and polishers (outside)	9.00
Pile drivers and wharf builders	9.00
Pile drivers engineers	10.00
Plasterers	11.00
Plasterers' bodcarriers	7.50
Plumbers	10.00
Roofers, composition	8.00
Roofers, all others	8.00
Sheet metal workers	9.00
Sprinkler fitters	10.00
Steam fitters	10.00
Stair builders	9.00
Stone cutters, soft and granite	8.50
Stone setters, soft and granite	9.00
Stone carvers	8.50
Stone derrickmen	9.00
Tile setters	10.00
Tile helpers	6.00
Auto truck drivers, less than 2500 lbs.	5.50
Auto truck drivers, 2500 to 4500 lbs.	6.00
Auto truck drivers, 4500 to 6500 lbs	6.50
Auto truck drivers, 6500 lbs. and over	7.00
General teamsters, 1 horse	5.50
General teamsters, 2 horses	6.00
General teamsters, 4 horses	6.50
Plow teamsters, 4 horses	6.50
Scraper teamsters, 2 horses	6.00
Scraper teamsters, 4 horses	6.00

*On wood lath if piece rates are paid they shall be not less than such an amount as will guarantee, on an average day's production of 1600 lath, the day wage set forth.

Eight hours shall constitute a day's work for all Crafts except as otherwise noted.

Plasterer's bodcarriers, bricklayers' bodcarriers, roofers, laborers, and engineers, portable and hoisting, shall start 15 minutes before other workmen, both at morning and noon.

Five and one-half days, consisting of eight hours on Monday to Friday inclusive, and four hours on Saturday forenoon shall constitute a week's work.

Overtime shall be paid as follows: For the first four hours after the first eight hours, time and one-half. All time thereafter shall be paid double time. Saturday afternoon (except laborers), Sundays from 12 midnight Saturday, and Holidays from 12 midnight of the preceding day shall be paid double time. On Saturday afternoon laborers, building, shall be paid straight time.

Where two shifts are worked in any twenty-four hours shift time shall be straight time. Where three shifts are worked, eight hours pay shall be paid for seven hours on the second and third shifts.

All work shall regularly be performed between the hours of 8 A. M. and 5 P. M., provided, that in emergencies or where premises cannot be vacated for work by mechanics until the close of business, men then reporting for work shall work at straight time; but any work performed after midnight shall be paid time and one-half except on Saturday afternoons, Sundays, and holidays, when double time shall be paid.

Recognized holidays to be New Year's Day, Decoration Day, Fourth of July, Labor Day, Admission Day, Thanksgiving Day and Christmas Day.

Men ordered to report for work, for whom no employment is provided, shall be entitled to two hours pay.

The ARCHITECT AND ENGINEER

MAY
1929

A VISTA OF RONDA, SPAIN, THROUGH OLD ROMAN BRIDGE ARCH. *—From a plate appearing in "Old World Inspiration for American Architecture."*

Old World Inspiration for American Architecture

—sponsored and published by the Monolith Portland Cement Company has recently been placed in certified architects' offices. This volume, the second to be prepared by Richard S. Requa, A. I. A. of San Diego, is arranged solely and particularly for use by the architectural profession.

The Monolith Portland Cement Company presents this volume as its contribution to the development of appropriate American styles of architecture. It is hoped that architects will find these photographic studies helpful and useful in their own creative work, and if the volume accomplishes this purpose, the company will feel amply rewarded for publishing it.

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Who's Who in this Issue

MESSRS. SYMMES & CULLIMORE, whose recent school work is illustrated in this issue, have been practicing architecture in Bakersfield about a year and a half. Both graduated from the School of Architecture of the University of California. **Edward J. Symmes** received three years training in the San Francisco offices of Bliss & Faville, and of William C. Hays after which he served with the P. P. I. Exposition Company, first as head of the Planning squad, then as Supervising Architect of Concessions in which latter capacity he received several medals and diplomas. Mr. Symmes entered private practice in San Francisco in 1915, one of his first commissions being the country home of Charles C. Moore, president of the P. P. I. Exposition. In 1917 he closed his office for war work and in 1919 made some extensive surveys of the properties of the Yosemite National Park Company. **Clarence Cullimore,** for eighteen years, had charge of the Drawing Department of the Kern County Union High School and Junior College, and for several years prior to the partnership, he practiced the profession along with his teaching. He has done some very creditable residence work. Mr. Cullimore is looked upon as one of the old timers in Kern County where he has a large acquaintanceship.

WILLIAM I. GARREN, architect, who edits the Modern Art and Architecture Department, received his early education in the San Francisco schools. His practical architectural training was received in the offices of John Galen Howard and Louis Christian Mullgardt. His professional training was received in the Ateliers of Arthur Brown Jr., John Bakewell and Warren C. Perry and in the classes of the San Francisco Architectural Club and in the Department of Architecture of the University of California. Mr. Garren was until 1924 in partnership with Irving F. Morrow, under the firm name of Morrow & Garren. Two years were spent by Mr. Garren in active service in France. Following the war Mr. Garren attended classes in City Planning at the University of London, England. He was one of the organizers of the Architects' State Association and is its secretary. He is a member of San Francisco Chapter, A. I. A., the Commonwealth Club of San Francisco, and the Alumnae of the Department of Architecture of the University of California.

JOHN J. DONOVAN, who writes in this issue of the work of Messrs. Symmes and Cullimore, is a native of Massachusetts. He attended the Massachusetts Institute of Technology and later Brooklyn Polytechnic Institute. After graduation, Mr. Donovan was connected with the office of Ernest Flagg at the time Mr. Flagg was designing the Singer building. Later, Mr. Donovan became associated with the firm of Palmer, Hornbastel and Jones. He came to California in 1911 to manager and direct the building of the Oakland City Hall. Upon completion of this building, Mr. Donovan opened an Oakland office and has since practiced the profession of architecture in the bay district with success. He is president of the California State Board of Architecture. His most pretentious architectural achievement, St. Mary's College, will be shown in an early issue of this magazine.

A. HEWETSON, whose interesting article on Trees, with accompanying sketches, appear elsewhere, began his education at one of the schools in Leeds, England. He migrated to San Francisco in 1906 and became a resident in the San Francisco Bay District. Mr. Hewetson's office connections include seven years with Louis Christian Mullgardt and, except for a period of Government service during the war, almost thirteen years with Henry H. Gutterson.

HUGH WHITE, whose building for William Cavalier & Company appears in this issue, received his early architectural training in Chicago, where he worked for Schmidt, Garden & Martin for two years. He came to San Francisco in 1905. He was a draftsman in the office of L. B. Dutton for nine years, and then was associated with Lewis P. Hobart until 1920. In that year, the partnership of Wyckoff & White was formed, doing largely school work in the smaller towns. Mr. White came to Oakland in 1924, and has since done considerable commercial work and such buildings as that of the Ladies' Relief Society in Oakland.

ALFRED F. PRIEST, architect, whose bank building is illustrated in the plate section of this issue, has been practicing architecture in Los Angeles for the past twenty-one years, specializing particularly in schools, clubs and bank buildings. He only recently completed the $1,100,000 Herbert Hoover Senior High School building in Northwest Glendale. Mr. Priest is a member of the American Institute of Architects, also the Southern California Chapter, and State Association of California Architects.

EMERSON KNIGHT, Landscape Architect, San Francisco, was born in Cincinnati in 1882, the son of Wm. H. Knight, astronomer and author. Mr. Knight moved to California in 1891. He served Cammillo Franceschi Fenzi, by supervising landscape development work in Santa Barbara in 1916 and was associated with Mark Daniels, landscape engineer, by assuming charge of 80 acres on the Estate of J. Cheever Cowdin in Hillsborough in 1917. Mr. Knight established his own office for the practice of the profession of landscape architect in San Francisco in September, 1919. He was engaged in the design and development of gardens and estates in Central California in 1918 to 1929, inclusive. He served Frederick Law Olmstead, Jr., in behalf of the Statewide Park Survey, for the California State Park Commission in 1928. Mr. Knight designed the outdoor Theatre for the Estate of Max M. Cohn, Los Gatos, California, and conceived and designed the outdoor theatre for Easter Sunrise Services on the summit of Mt. Helix, near San Diego, in association with Messrs. Requa & Jackson, architects of San Diego, also the outdoor theatre for drama and symphony at Hillsborough in association with Messrs. Willis Polk and Co., architects.

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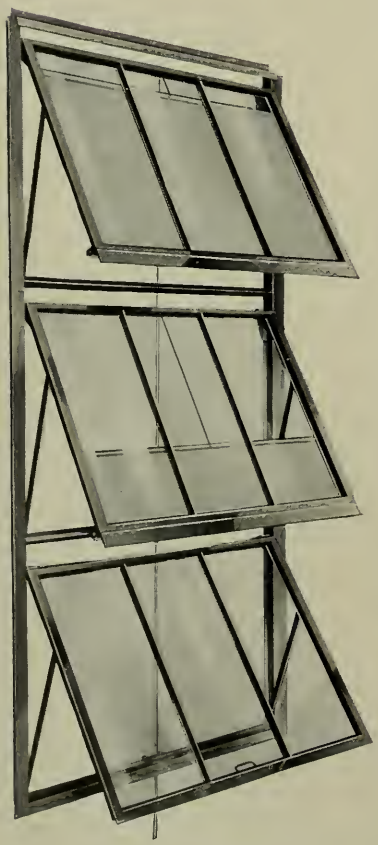

All three sash open. Note individual shades on each sash acting as awnings when fully drawn.

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Bottom sash open — upper sash closed.

All three sash closed and weathertight.

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The ARCHITECT AND ENGINEER

Since 1905

VOLUME 97 MAY, 1929 NUMBER 2

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W. J. L. KIERULFF
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V. Pres. and Editor

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Contributing Editors—W. C. HAYS, *San Francisco;* HAROLD W. DOTY, *Portland, Ore.;* CARLETON MONROE WINSLOW and C. H. CHENEY, *Los Angeles;* C. H. ALDEN, *Seattle, Wash.*
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The
ARCHITECT
AND ENGINEER
May, 1929

The ARCHITECT AND ENGINEER

VOLUME XCVII MAY, 1929 NUMBER TWO

THE RURAL SCHOOL AND ITS SOLUTION

By: John J. Donovan, Architect
Member A.I.A.

DURING the last ten years there has been a concerted movement in all the States of the Union towards developing the consolidated rural school. Modern bus transportation has aided and facilitated this development.

In the past and even today in many sections of the Union there are a great many of the one and two room school buildings supported meagerly by their school districts, poor in themselves. The backward trend of education under such circumstances has been painfully obvious to those the least cognizant of modern education, its methods and its means towards the creation of healthful conditions.

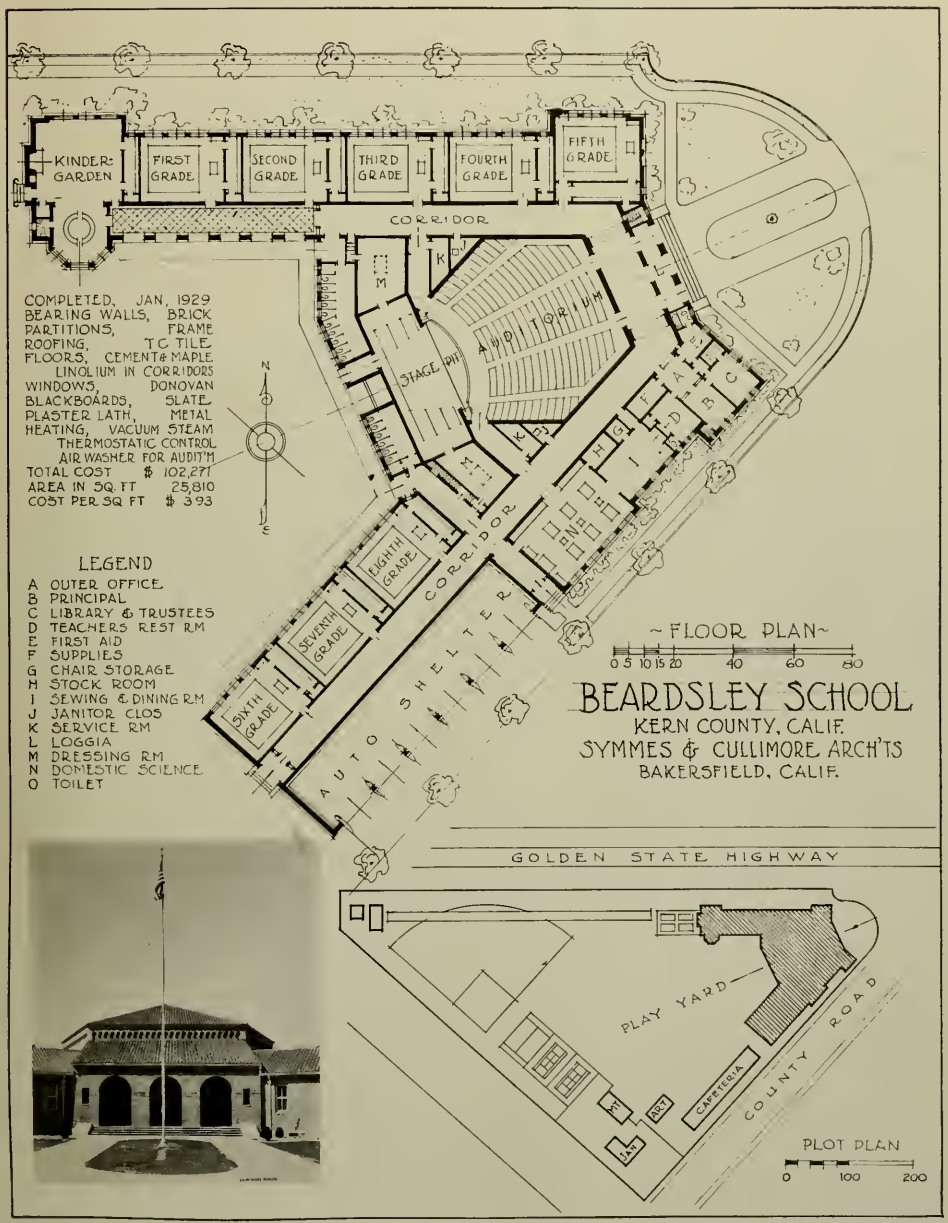
During these ten years a strong and well directed effort has been made by State Legislators, the National Education Association and local State authorities to organize several contiguous districts into union school districts so that instead of the one room, or two, three or four rooms, where the teacher teaches two or more or even all the grades, the consolidated union elementary school has rapidly grown and today is patterned largely after the union high school in the formation of the districts. It will take several years before the one or two room school will disappear, but eventually that must be the result, for the values of the consolidated school are so paramount that to do otherwise than consolidate is nothing more than stopping the hands of the clock.

In the first place, the consolidated rural school has greater areas upon which to levy taxes and raise bonds for land, buildings and equipment. The larger taxable area provides greater funds so that teachers especially well trained, may teach a single grade, or one or two grades, instead of undertaking the almost impossible task of teaching all the subjects from the kindergarten to the eighth grade. Then again, possibilities for departmental teachers, such as teachers for home economics, that is, sewing and cooking, drawing, music, shop work, elementary science and other subjects requiring special training by the teacher for such work are possible under the consolidated school district organization or plan.

Motor busses transport the children from their homes to the school and return them late in the afternoon and as a consequence, the rural school pupil has almost equal advantages with the child living in the urban or city districts.

It is recognized that no child's prelimi-

BEARDSLEY SCHOOL BUILDING, KERN COUNTY, CALIFORNIA



Photos by Dorman Bros.

nary education is at all complete with teaching just the three Rs and it is recognized likewise that no instructor may effectively teach all the grades of the elementary school and do justice to any of them. The farmer has been the first to realize the benefits derived from this rural consolidated school plan. He observes that the sanitary and healthful conditions are so improved and so gratifying and satisfactory to his children.

The social life of the teachers is such as to make their work attractive and to hold them for longer periods in tenor of position, then again the larger school area enables the consolidated school district to employ well-trained school administrators for principals, and in addition to this the health examinations of the pupils are such as to enable the parent to ascertain in a general way the physical condition of his child. This, of course, is done by the employment of a nurse and sometimes the establishment of a school clinic, which all tends towards higher development and greater advantages to the child.

Until recently rural schools and equipment have not kept pace with the material progress and improvements made in everything else. It was a clear case of suspended development, but today most communities recognize that the first forward step necessary to bring about better farm and living conditions is the building of a modern, comfortable and attractive school house, with ample grounds properly landscaped and laid out for amusement and recreation, also providing a community center for education and a center for social gatherings. A community at once becomes proud of its possession and develops an interest in the school and its affairs and it is not long before community betterment in general is attained and quickly recognized.

A further consequence of consolidation has been the fact that the larger school is quite attractive to the architect upon which to exercise his talents, his training and skill. We find the principles of the urban school applied in a general way to the plan and development of the rural consolidated school. A splendid example of this is in the work of Messrs. Symmes and Cullimore of Bakersfield, who are doing commendable work in and around Kern County, California.

BEARDSLEY SCHOOL BUILDING, KERN COUNTY, CALIFORNIA
Symmes and Cullimore, Architects

Take for example the Beardsley School, which is illustrated in this number of THE ARCHITECT AND ENGINEER: Here we find the rural school, one story in height, with all the advantages that might be found in a school of that size in any of the larger cities of our State. What is taking place with these gentlemen is occurring with others in the architectural profession, namely, wonderful and attractive oppor-

tunities to practice the work of their profession and in a direction where the greatest amount of good follows. Here we have a school with separate rooms for the kindergarten and each of the eight grades, an auditorium with well planned stage, and dressing rooms, a room for domestic science, a room for sewing which is easily and quickly converted into a practice dining room, serving as a room for part of the home economics training. Then we find a complete administration suite and development of his child as the school desk and the school book, and in order that this may be properly done he also understands that it is necessary to employ trained men in architecture and in landscape work so that the solution of his school problem may be thoroughly studied and executed in a sane, safe and intelligent manner. He recognizes that without such men ready to help him, he can have only a make-shift in the final solution of his work. I am speaking of the farmer and suburbanite as men

BEARDSLEY SCHOOL BUILDING, KERN COUNTY, CALIFORNIA
Symmes and Cullimore, Architects

the architecture attractive, well done and the use of good and substantial material in the design of the building.

Truly it is gratifying to observe such progress as this as exemplified in this building and some of the others shown herein.

The farmer and the rancher by means of the radio and automobile is no longer regarded as the rustic, or is he buffooned on the stage in terms of the town constable, but rather he and his family are apprised of the modern developments in the industries and social life of the people of the cities. It may be that he needs relief in the terms we talk of as "farm relief," but he needs no relief in acuteness of intelligence or understanding of his problems and the school is one of the farmer's problems. He is fast learning that ample grounds must be provided, that an athletic field is just as necessary for the educational and social and women who may be called at any time to serve upon their local board of education.

What is taking place in California is occurring similarly in almost every State of the Union. To be sure we have State Bureaus in many States of the Union which furnish stock plans and specifications for the building of one, two and three room school buildings and some of the results attained from this might be termed as creditable, considering the disadvantages and encumbrances under which such State departments have to work and very often the need is so immediate that education could not take place unless some such bureaus were established and if one might say "ready made" plans and specifications furnished to provide the facilities quickly to prepare for the education of the rural school child.

On the other hand, the trend is fast going

in the direction of the larger consolidated rural school and happily the tendency is to employ able men of the architectural profession to direct their attention to this branch of school architecture. It is fortunate that that is the case.

We have a long way to go before public taste is elevated to a point of appreciating the value of having educationally trained architects to perform this work. In the past, and unfortunately today, the building of a great many schools is turned over to the contractor, because our people know no better nor no differently. The men who do this work are not to be condemned; in most cases they do their very best and should be given credit for the integrity, honesty of purpose and desire to achieve and accomplish. On the other hand, can one expect that school buildings built under such conditions are other than approaches or make-shifts instead of real solutions of the problem accompanied by good architecture and good landscape development.

America is rapidly developing an architecture of its own. American School Architecture is probably the best the world over; more scientific developments have taken place in American school architecture than in that of any other country; keen and alert-minds in the teaching profession, the architectural profession and the medical profession have directed their energies towards understanding the child and understanding the accommodations which will make for his welfare, physically, mentally and spiritually.

AUDITORIUM, BEARDSLEY SCHOOL, KERN COUNTY, CALIFORNIA
Symmes and Cullimore, Architects

I have always contended that if more members of the architectural profession were to direct their attention to school planning and building that greater progress than already exists would take place in this field of their work. It is a happy thought to realize that most of the men performing the work are graduates of our universities and their departments of Architecture. This should speak for itself, not that the man who has not had that opportunity cannot succeed, but rather that the man who has had the opportunity has a responsibil-

ity upon him which he knows himself, namely, that unless he produces good architecture opprobrium and discredit will fall upon him, not so much from his clients, who may not fully understand, but from his fellow craftsmen and former fellow students who are always looking for good results from the training that he and they received as students.

The work of Symmes & Cullimore, as we view it, is encouraging indeed, for the finer school buildings that are built, the finer will be expected by the Public and there is no better way to sell education to our people than through the medium of good school buildings economically planned and beautifully designed.

KINDERGARTEN, BEARDSLEY SCHOOL, KERN COUNTY, CALIFORNIA
Symmes and Cullimore, Architects

THE TYRANNY OF TEXTURE

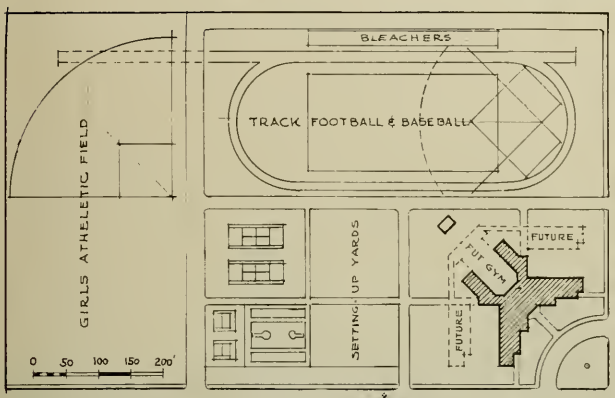
ANTIQUE flavor in modern buildings often means only the substituting of poor, imperfect materials for those which are beautiful and substantial.

"There is danger that the vulgarity of shininess will merely be replaced by an equally objectionable vulgarity of slovenliness," declares Francis P. Sullivan, member of the Washington, D. C. Chapter, American Institute of Architects, protesting against the "tyranny of texture."

"The word texture has properly the broadest significance," Mr. Sullivan points out. "It is as applicable to the lustre of damask as to the shagginess of astrakhan. In the architect's diction, however, it not only conveys the idea of roughness and coarseness but also the implication that lack of finish is in some way noble and desirable.

"The bricks in the Georgian houses with which I am familiar may have been made by hand, but they are just as well made as it is humanly possible for the hand to make them. They have all the little unevennesses and imperfections that are inevitable in handiwork, but not one single defect that could be avoided by skill and care. They are as straight as a square-edge, laid with mortar joints of perfectly even width."

DOMESTIC SCIENCE DEPARTMENT, BEARDSLEY SCHOOL BUILDING



SHAFTER HIGH SCHOOL

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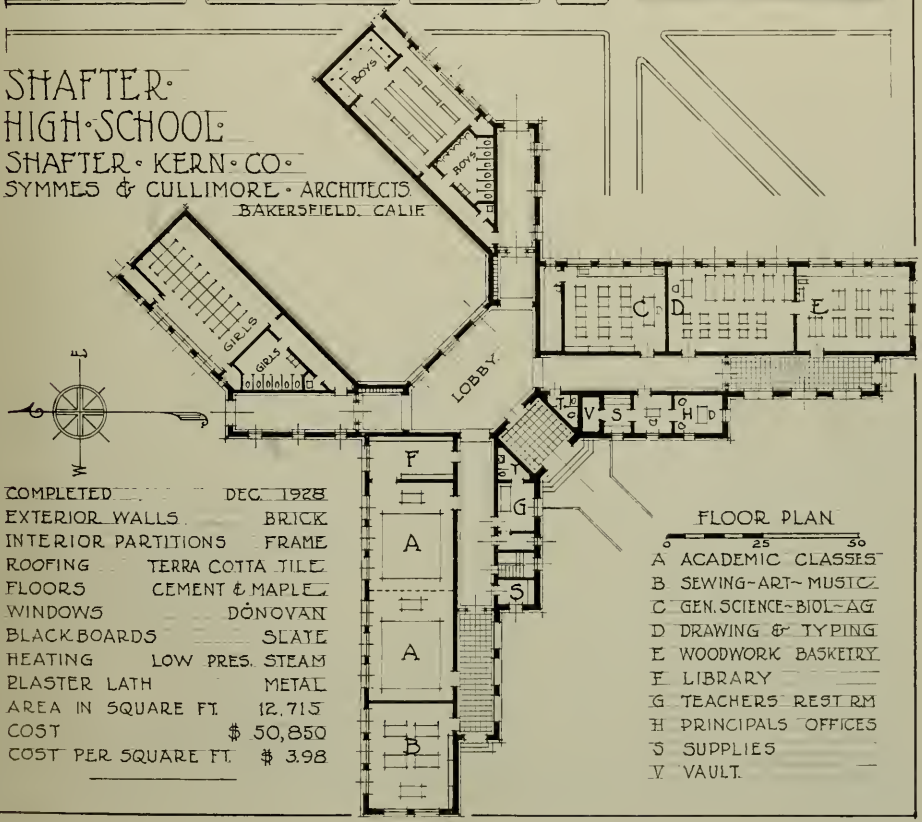

COMPLETED	DEC. 1928
EXTERIOR WALLS	BRICK
INTERIOR PARTITIONS	FRAME
ROOFING	TERRA COTTA TILE
FLOORS	CEMENT & MAPLE
WINDOWS	DONOVAN
BLACKBOARDS	SLATE
HEATING	LOW PRES. STEAM
PLASTER LATH	METAL
AREA IN SQUARE FT.	12,715
COST	$ 50,850
COST PER SQUARE FT.	$ 3.98

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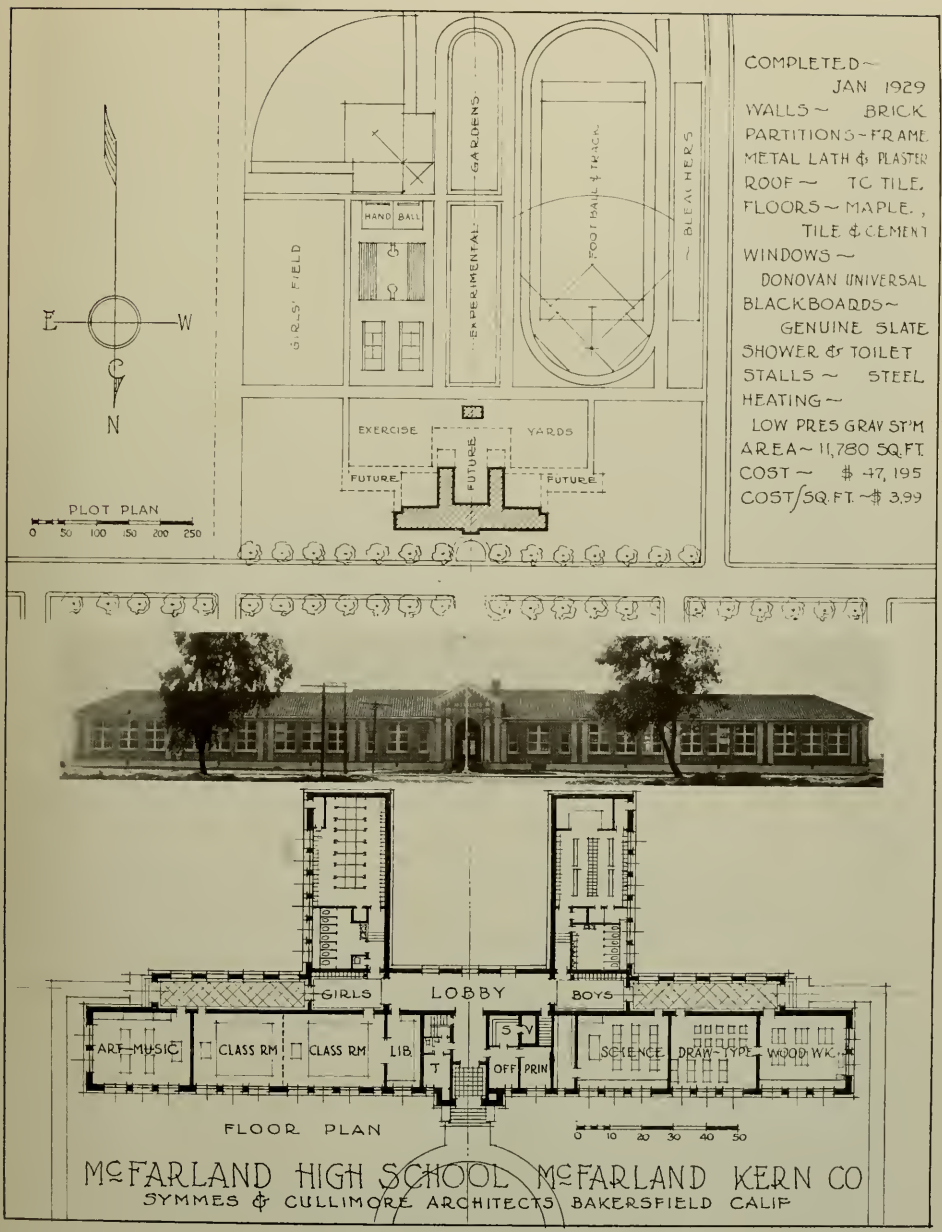
COMPLETED ~ JAN 1929
WALLS ~ BRICK
PARTITIONS ~ FRAME
METAL LATH & PLASTER
ROOF ~ TC TILE
FLOORS ~ MAPLE., TILE & CEMENT
WINDOWS ~ DONOVAN UNIVERSAL
BLACKBOARDS ~ GENUINE SLATE
SHOWER & TOILET STALLS ~ STEEL
HEATING ~ LOW PRES GRAV ST'M
AREA ~ 11,780 SQ.FT.
COST ~ $ 47,195
COST/SQ.FT. ~ $ 3.99
PLOT PLAN
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GIRLS' FIELD
HAND BALL
GARDENS
EXPERIMENTAL
FOOT BALL & TRACK
BLEACHERS
EXERCISE YARDS
FUTURE
FUTURE
FUTURE
GIRLS
LOBBY
BOYS
ART-MUSIC
CLASS RM
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DRAW-TYPE
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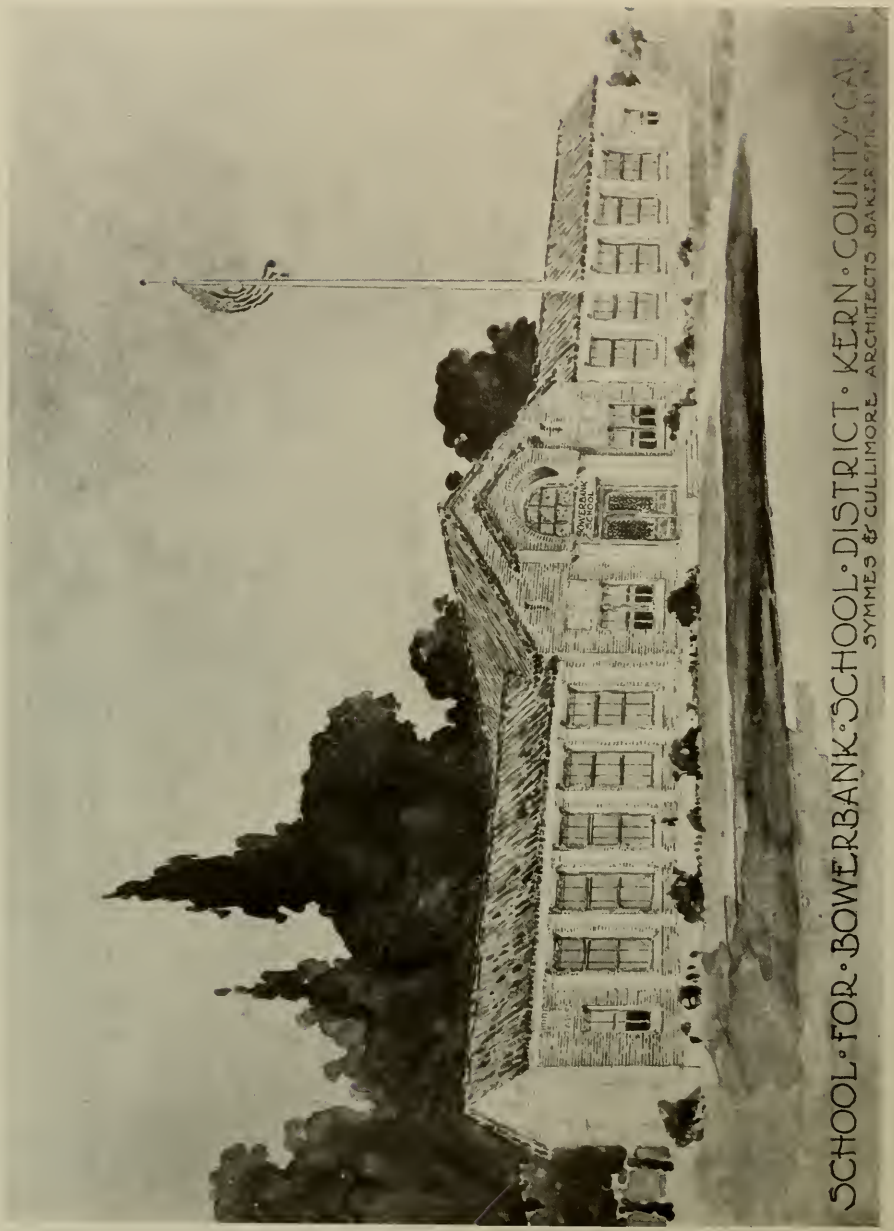
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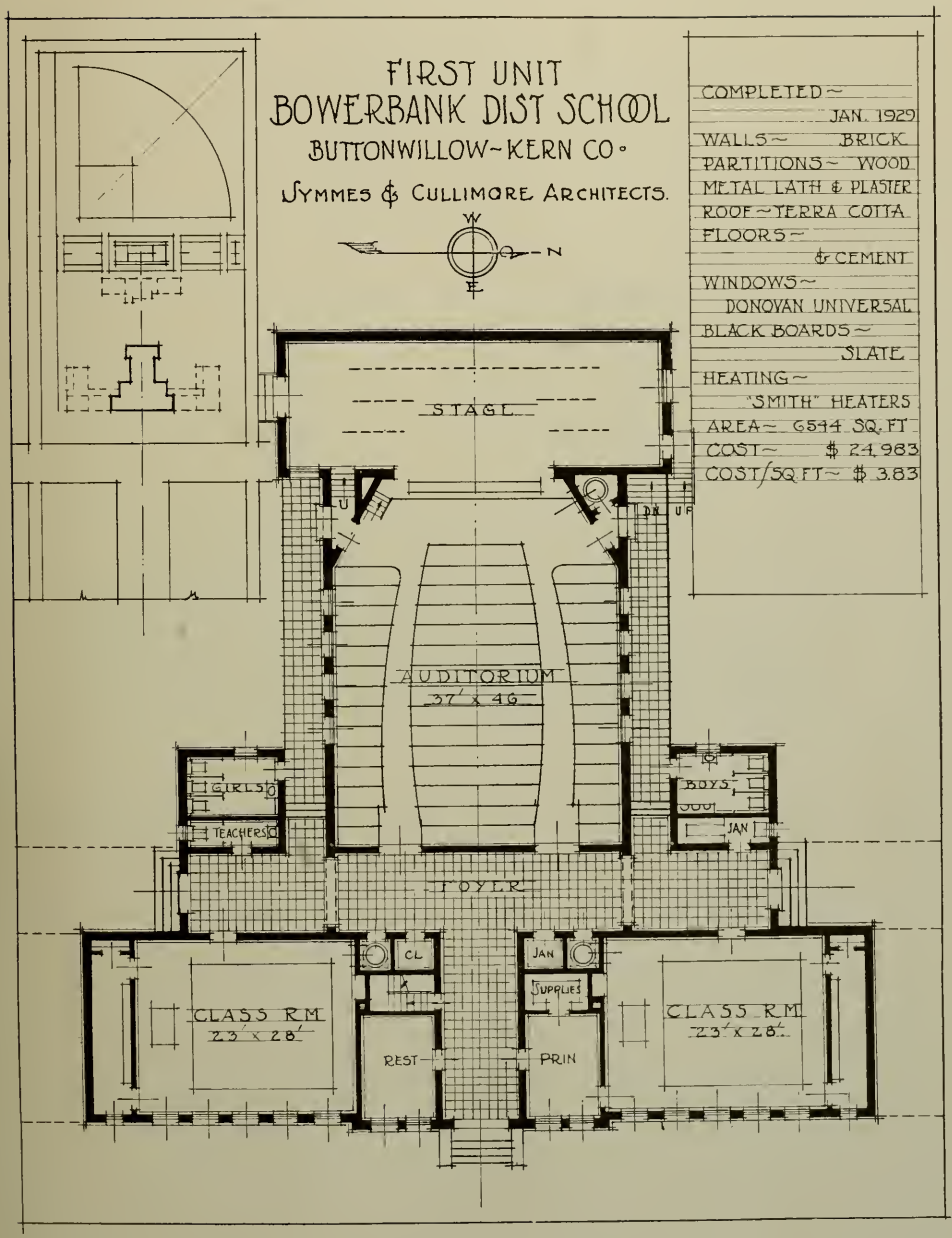
BOWERBANK SCHOOL


FIRST UNIT
BOWERBANK DIST SCHOOL
BUTTONWILLOW~KERN CO.
SYMMES & CULLIMORE ARCHITECTS.
W
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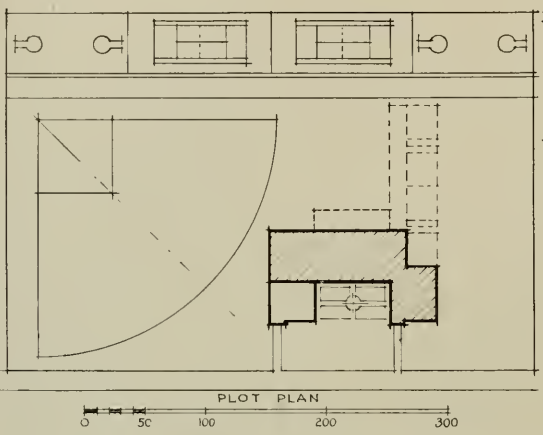
COMPLETED ~ JAN. 1929
WALLS ~ BRICK
PARTITIONS ~ WOOD
METAL LATH & PLASTER
ROOF ~ TERRA COTTA
FLOORS ~ & CEMENT
WINDOWS ~ DONOVAN UNIVERSAL
BLACK BOARDS ~ SLATE
HEATING ~ "SMITH" HEATERS
AREA ~ 6594 SQ. FT
COST ~ $ 24,983
COST/SQ FT ~ $ 3.83
STAGE
AUDITORIUM 37' x 46'
GIRLS
TEACHERS
BOYS
JAN
FOYER
CL
JAN
SUPPLIES
CLASS RM 23' x 28'
REST
PRIN
CLASS RM 23' x 28'

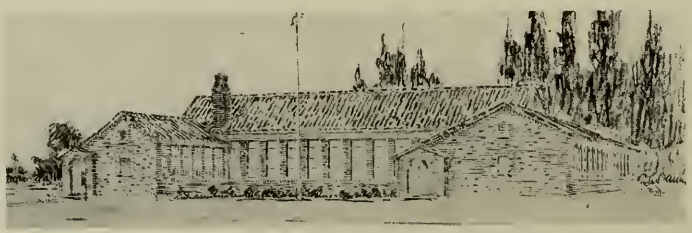


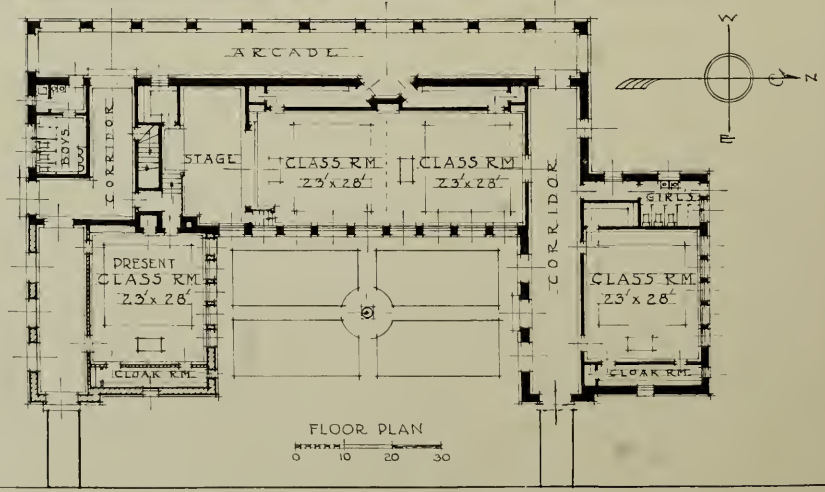
FAIRFAX SCHOOL ADDITION

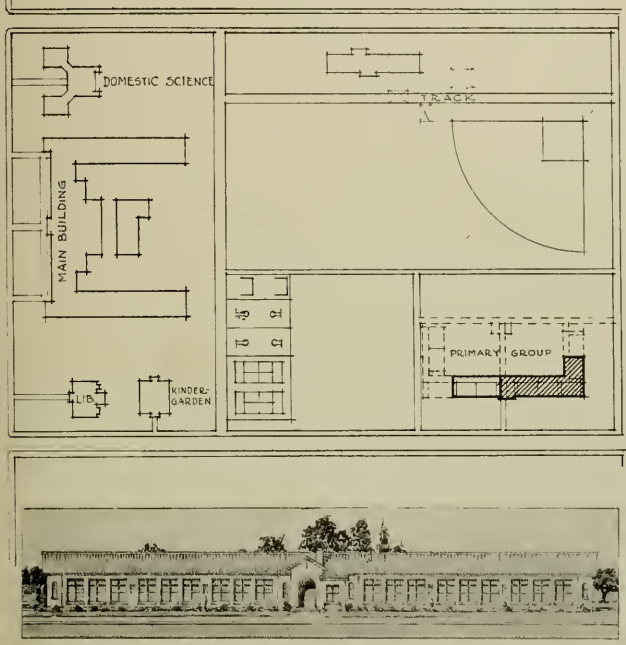
KERN CO., CAL.

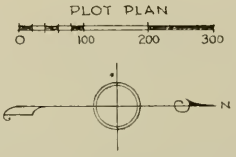
SYMMES & CULLIMORE ARCH'TS
BAKERSFIELD.

BEARING WALLS	BRICK
PARTITIONS	FRAME
PLASTER LATH	WOOD
ROOFING	COMPOSITION & TILE
FLOORS	CEMENT AND PINE
WINDOWS	HAUSER AWNING
BLACKBOARDS	STERLING
HEATING	LOW PRESSURE ST'M
AREA IN SQ. FT	4815
COST (ESTIMATED)	$ 18,000
COST PER SQ. FT.	$ 3 73





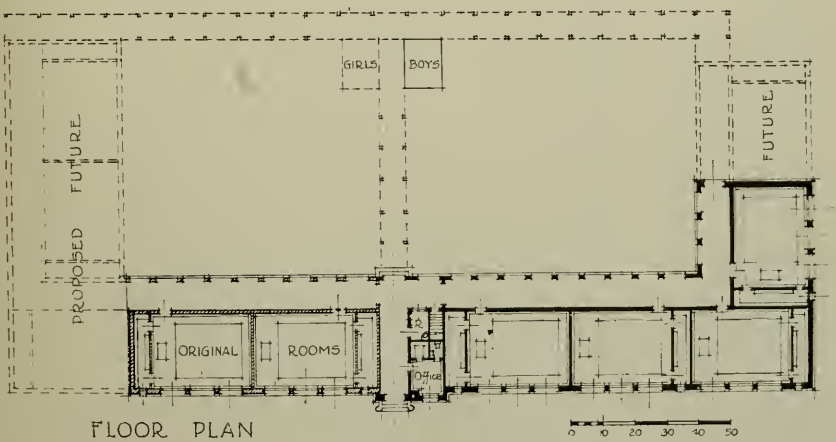




COMPLETED, 1928
EXTERIOR WALLS, RE.CON
PARTITIONS, FRAME
PLASTER LATH, METAL
ROOFING, T.C TILE
FLOORS, CEM. & MAPLE
WINDOWS, D.H. & TRAN.
BLACKBOARDS, SLATE.
HEATING, STEAM
AREA IN SQ.FT., 5,810
COST, $ 22,679
COST PER SQ. FT., $3.90

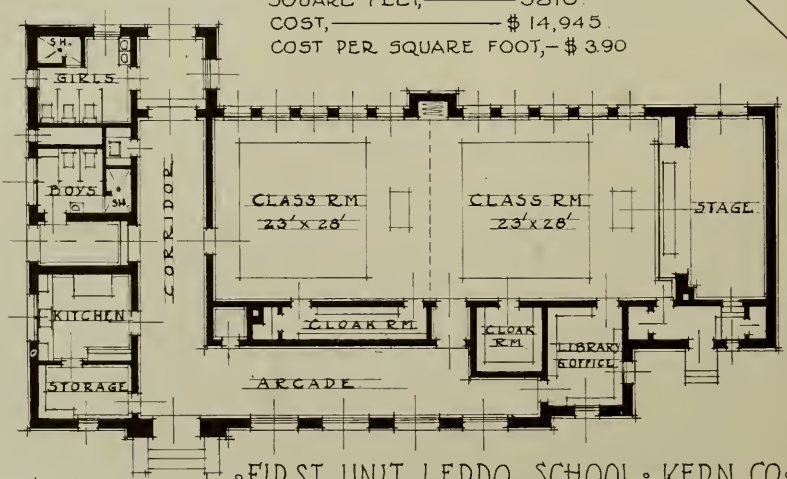
ADDITION TO PRIMARY BUILDING, WASCO UNION GRAMMAR SCHOOL

SYMMES & CULLIMORE ARCHITECTS, BAKERSFIELD



FLOOR PLAN

COMPLETED, MARCH, 1929.
EXT. WALLS, BRICK.
ROOF, —— T.C. TILE.
FLOORS, - CEMENT, PINE.
WINDOWS, —— DONOVAN
BLACKBOARDS, —— SLATE.
HEATING, —— SMITH HEATERS.
SQUARE FEET, —— 3810.
COST, —— $ 14,945.
COST PER SQUARE FOOT, - $ 3.90



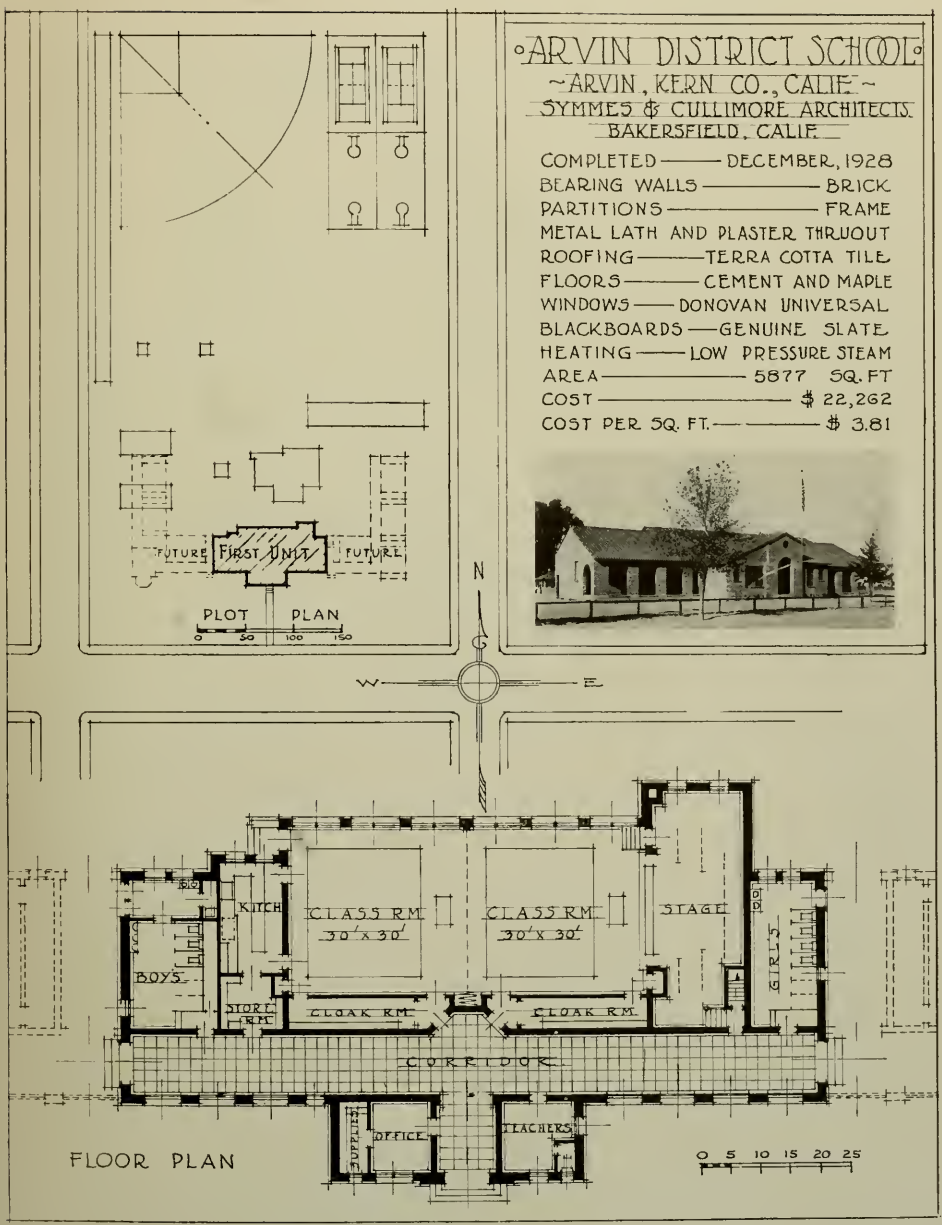
FIRST UNIT LERDO SCHOOL · KERN CO · CAL ·
SYMMES & CULLIMORE ARCHITECTS, BAKERSFIELD

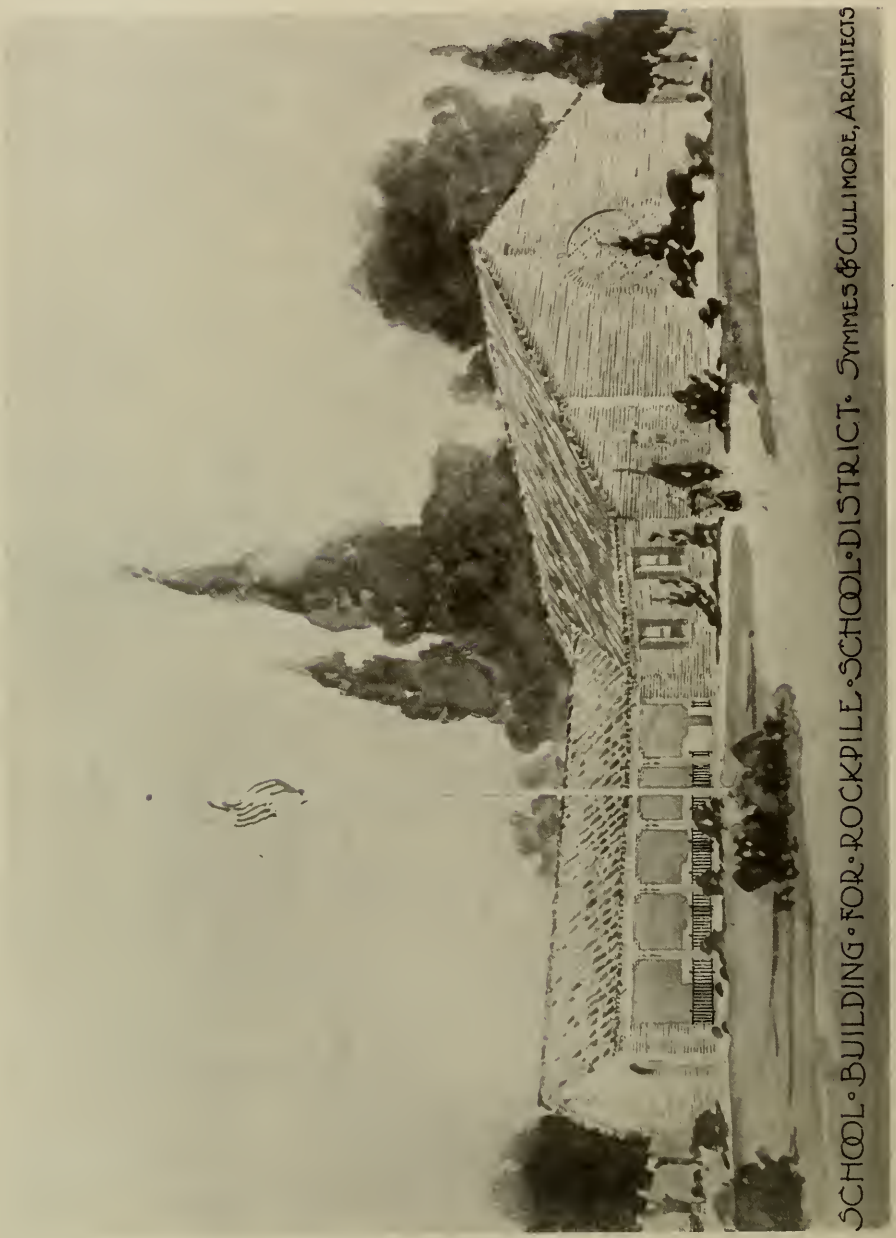
ARVIN DISTRICT SCHOOL

~ARVIN, KERN CO., CALIF.~

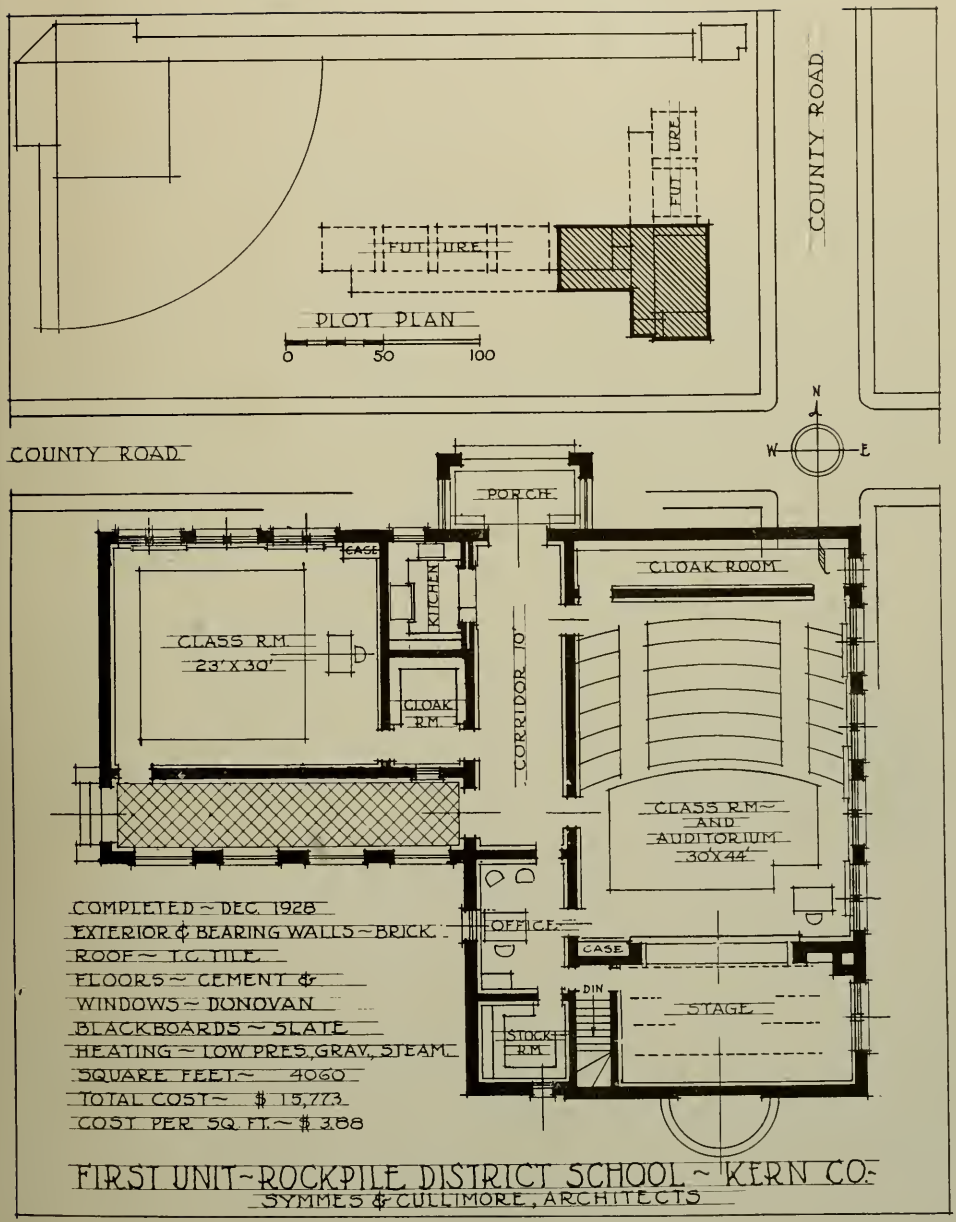
SYMMES & CULLIMORE ARCHITECTS
BAKERSFIELD, CALIF.

COMPLETED — DECEMBER, 1928
BEARING WALLS — BRICK
PARTITIONS — FRAME
METAL LATH AND PLASTER THRUOUT
ROOFING — TERRA COTTA TILE
FLOORS — CEMENT AND MAPLE
WINDOWS — DONOVAN UNIVERSAL
BLACKBOARDS — GENUINE SLATE
HEATING — LOW PRESSURE STEAM
AREA — 5877 SQ. FT
COST — $ 22,262
COST PER SQ. FT. — $ 3.81



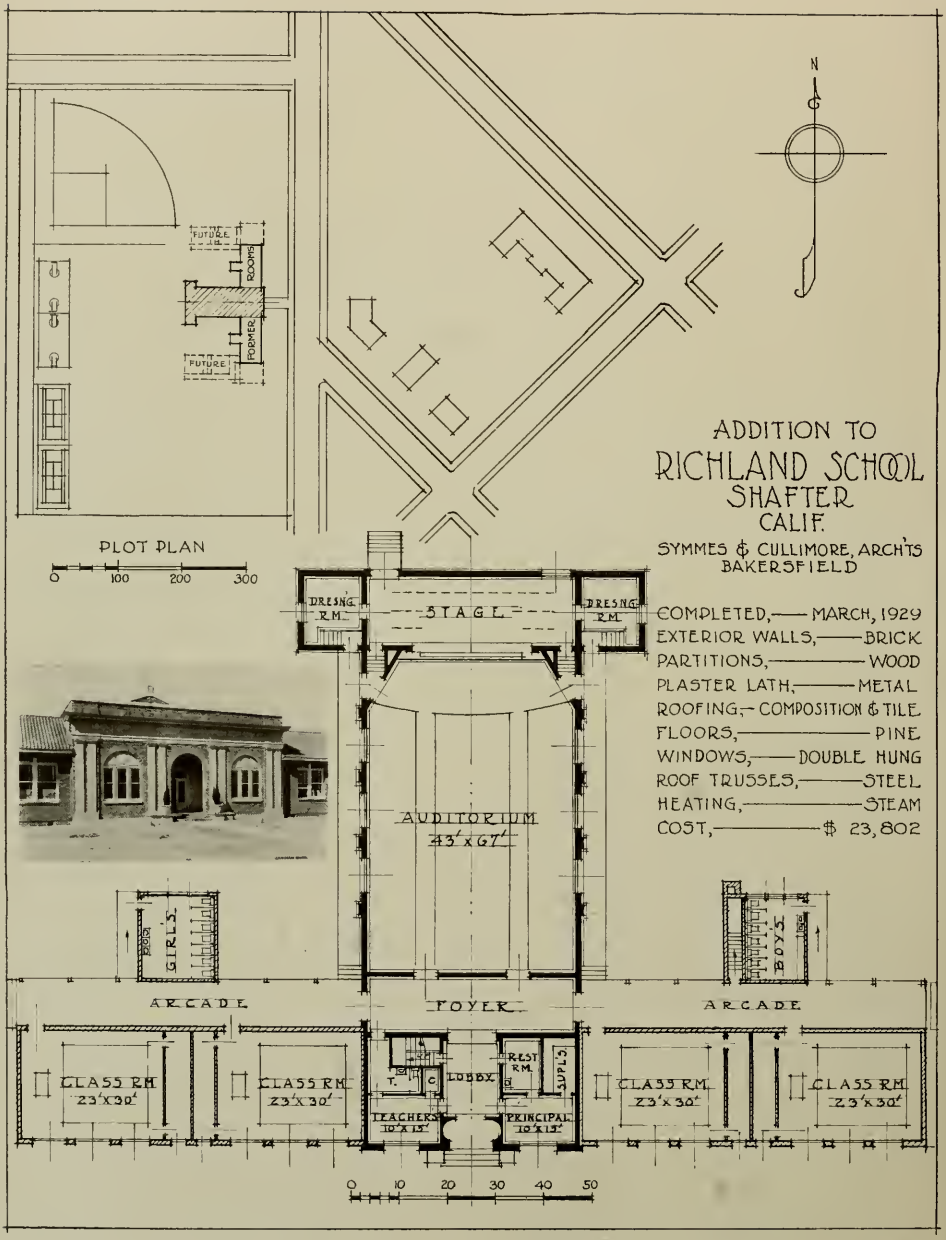


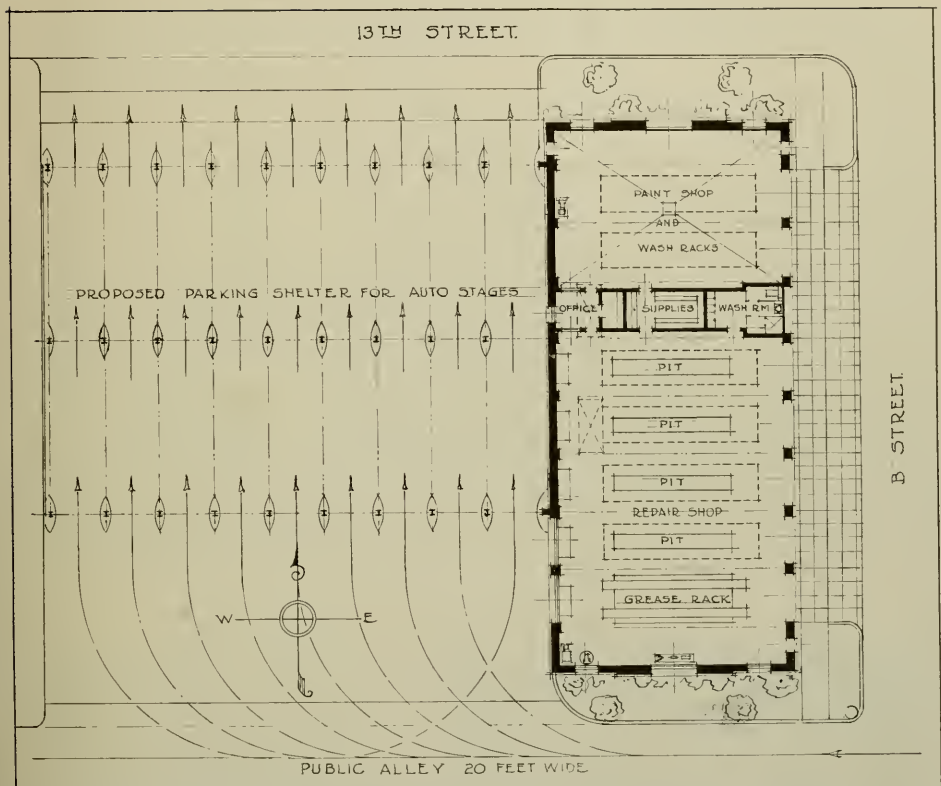
SCHOOL · BUILDING · FOR · ROCKPILE · SCHOOL · DISTRICT · SYMMES & CULLIMORE, ARCHITECTS



FIRST UNIT ~ ROCKPILE DISTRICT SCHOOL ~ KERN CO.

SYMMES & CULLIMORE, ARCHITECTS


FUTURE
ROOMS
FUTURE
PRIMARY
FUTURE
PLOT PLAN
0 100 200 300
N
ADDITION TO
RICHLAND SCHOOL
SHAFTER
CALIF.
SYMMES & CULLIMORE, ARCH'TS
BAKERSFIELD
COMPLETED,—— MARCH, 1929
EXTERIOR WALLS,—— BRICK
PARTITIONS,—— WOOD
PLASTER LATH,—— METAL
ROOFING,— COMPOSITION & TILE
FLOORS,—— PINE
WINDOWS,—— DOUBLE HUNG
ROOF TRUSSES,—— STEEL
HEATING,—— STEAM
COST,—— $ 23,802
DRESS'G RM.
STAGE
DRESS'G RM.
AUDITORIUM
43'x67'
GIRL'S
BOY'S
ARCADE
FOYER
ARCADE
CLASS RM.
23'x30'
CLASS RM.
23'x30'
T.
C.
LOBBY
REST RM.
SUPL'S
CLASS RM.
23'x30'
CLASS RM.
23'x30'
TEACHERS
10'x15'
PRINCIPAL
10'x15'
0 10 20 30 40 50



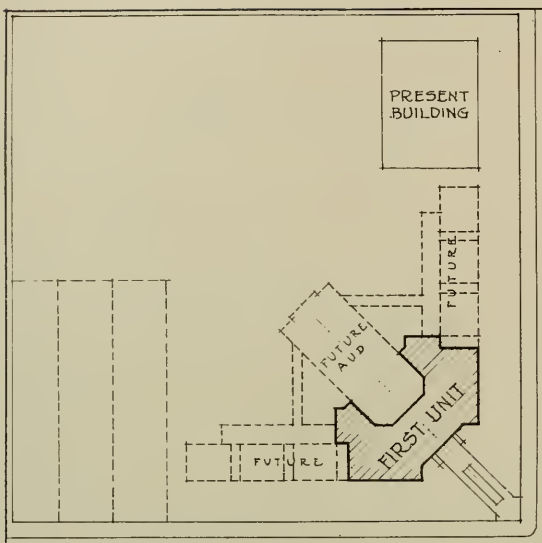
FIRST UNIT OF TRANSPORTATION BUILDING KERN CO UNION H.S.

BAKERSFIELD, KERN CO., CALIF. SYMMES & CULLIMORE, ARCHITECTS

EXTERIOR WALLS, REINFORCED CONCRETE.
STEEL TRUSSES.
COMPOSITION ROOF

VENTED TYPE STEEL SASH
METAL DOORS, HINGED-FOLDING TYPE.
CONTRACT PRICE, $ 15,433

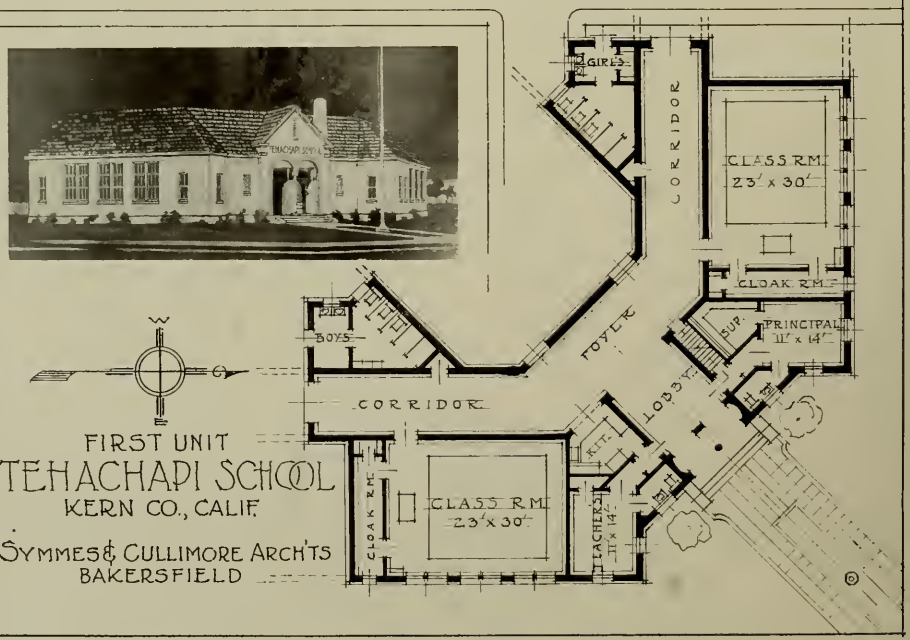
0 10 20 30 40 50



PLOT PLAN
0 50 100 150

EXT. WALLS, REN'FD CONCRETE
PARTITIONS, FRAME
ROOFING, ASBESTOS SHINGLES
FLOORS, CEMENT & PINE
WINDOWS, HAUSER
BLACKBOARDS, STERLING
HEATING, STEAM
PLASTER LATH, METAL
AREA IN SQ. FT., 3976
COST ESTIMATED, $16,500
COST/SQ. FT " , $ 4.15

FLOOR PLAN
0 5 10 20 30 40



FIRST UNIT
TEHACHAPI SCHOOL
KERN CO., CALIF.

SYMMES & CULLIMORE ARCH'TS
BAKERSFIELD

MOVING PICTURE THEATER, BAKERSFIELD, CALIFORNIA
Symmes and Cullimore, Architects

ORIENTAL CAFE, BAKERSFIELD, CALIFORNIA
Symmes and Cullimore, Architects

ILLUMINATED GARDENS

By Emerson Knight
Landscape Architect

IN our age of quantity production by means of machinery as opposed to quality achieved through art and handcraft; of sensation and speed in opposition to quiet reflection and repose, we find on every hand, violent use of color, light and sound which tend toward discord or unrest, rather than harmony. On the part of artists and students alike there seems to be a chaotic striving toward something new and different but the processes used in seeking this goal are lacking in order and frequently vague or blind. One wholesome note runs through all this effort toward the new and original. It is that of the creators who recognize that much past art has been overloaded with detail and ornament which had little use or function; who now seek to eliminate all that is useless in favor of direct, basic or functional design, with the utmost simplicity of form and color. These artists seek for color harmony and vigorous rhythm and achieve both at times to an unexpected degree. Yet design of excellence accompanied by virile, spontaneous rhythm is rare.

LIGHTED LIVE OAK, HOTEL BILTMORE GROUNDS, SANTA BARBARA

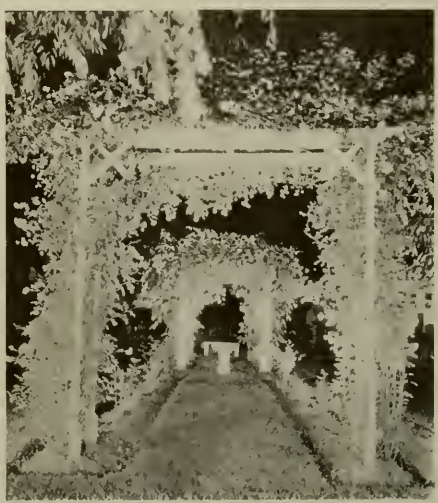
On the part of that larger group that does not originate or create, there is a constantly growing understanding and appreciation of good work and the perception to appraise it with some degree of fairness. With a general response to, and even a demand for, an abundance of warm color, there is also a healthful seeking for clear color used simply in broad masses, with harmonizing tone gradations. Thus, while we live in an age of swift action and thought, a period of excitement intensified by the radio, jazz in music and pictorial art, and jazz in language—yet we have a gratifying reaction on the part of those who seek a more quiet existence and more repose in environment and thought. There are those who realize that there is yet growth to be enjoyed through the contemplation of beauty in nature and art, without hurry. Some of our more serious artists, architects and landscape architects find themselves responsive to the reverential attitude of this latter group. The experience of the writer leads him to believe that a discussion of how gardens might be invitingly lighted by artificial means, to extend the hours when they might be enjoyed, into moonless nights, may not prove uninteresting.

It is by no means necessary to go into great effort or expense in order to obtain some pleasure in gardens through night illumination. Most of us can recall visiting country homes, situated among trees, where

the winding path from the gateway to the house has been rendered visible and delightful, either by means of a string of lights, or by occasional lanterns on gateposts, hung in the trees or on the house. Such an entry is more inviting when none of the lighting is harsh and when all reasonable care is exercised to conceal wires and conduits. The choice of lanterns will reflect the taste of the owner and also the mind of the designer in the case of a well planned garden.

The practical problems to be solved in night illumination include the clear delineation of the entrance gates and lodge of a private estate, or of the street number of a city home with a generous forward planting. The drives and paths need to be distinct to the degree of safety, showing all changes in grade, curves, ramps and steps. A drive may be so lighted as to offer one set of impressions when approaching the house and a different series of pictures from the house and when leaving the property. Points of beauty worthy of accent can be given emphasis—such as throwing into sharp relief the shadowed end of a massive, square-cut hedge. Aquatic features may be lighted to unveil their liquid movements and reflections, including rills, canals, fountains and swimming pools. Where plain surfaces prevail on buildings or garden walls, the exquisite forms of small flowering plants and the sculptural form of trees and shrubs can best be projected in silhouette. Nothing more beautiful can be imagined than the shadowed tracery of slender eucalyptus leaves and the lacelike form of pepper tree foliage moving gently in shadow on a sensitive wall background. When structural beauty is significant as exemplified in garden architecture there may be found appropriate methods of lighting walls, stairways, ramps, terraces and balustrades, belvederes and loggias, in order to render more poignant or striking, their form, texture, scale and environment.

Among interesting methods of inexpensive lighting for certain phases or units of gardens, perhaps one of the most satisfying is that of creating a vivid picture just outside the living room window. This would invite expression when the living room opens upon an intimate, screened or protected space so planted as to form a kind of complementary outdoor living room. If the windows did not command any distant view or focal point, the entire charm would be manifested in the variety, color and texture of foliage or flowers, together with the play of light and shade. Thus would be created an enchanted elfinland—from the lawn or pool below to enframing shrubbery and the starlit sky glimpsed through the trees above. The lights should be invisible as far as possible and usually either white or yellow in order to preserve nature's values. Another effective way of employing artificial night illumination, is that of concentrating the attention on an object, group or focal point of special form or grace, at some distance from the house, such as the subtle lighting of a rugged boulder, an oil jar, a sculptured figure or a wall fountain at the terminus of a garden walk; or of a bold, massive grouping of shrubs and trees far down a lawn vista, or again, of a lily pool, waterfall or lake with the trees leaning reflectively over the water. In striking contrast with the normal sun-



PHOTOGRAPH SHOWS POSSIBILITIES OF GARDEN LIGHTING

lighting of trees by day, from above or outside the masses of foliage, is the effect of night light projected from below, upward into the leafage of the inner canopy of the trees. This is, indeed, magically unlike the mood of day. It is possible to produce, on a still summer night, the effect of movement in the leaves of trees, by means of a concealed motor—revolving a disc of different colored lights, thus giving a passing-cloud illusion.

One kind of effect may be gained by night lighting which is impossible in broad daylight and which involves a technique not unlike that of stagecraft. It is that of augmenting perspective in the case of major vistas to achieve the effect of height, depth, nobility and mystery. Through the use of lights in a series of planes or colors at certain fixed distances in sequence, it will be possible so to treat an existing garden vista which we will assume for example, has a depth of two hundred feet, so that the object or focal point at the far end will appear to be three times as distant, or six hundred feet away. This may be accomplished by using the warmer tints of amber, red or orange to strengthen the foreground, and projecting cooler tints or tones of blue, violet and green in the middle distance to augment perspective, while the light focussed on the more distant objects to be emphasized, can be subdued or intensified at will. Thus an effect can be created like that of the gloaming in autumn, with its wistful mists of distance. This fascinating phase of garden lighting has great potentialities.

Colors, other than for natural effects, should be used with due restraint. They may be consistently employed on rare occasions of special significance. Such might be carnivals, pageants, or festivals for the delight of children. In general, the quieter the lighting, the more refined, delicate, sculpturally modulated and memorable will be the result. The impressions possible are unlimited but achievements of distinction will require the taste and imaginative force of an exceptionally well equipped designer in landscape architecture.*

*The Lighting Bureau of the Pacific Coast Electrical Association at their convention at Del Monte, June 19 to 22, inclusive, will install a rather extensive display of garden and tree lighting, using approximately one hundred flood lighting units. The sunken garden, swimming pool, and the silhouette of trees with color backgrounds are to be featured in the lighting display.

TREES

By: A. Hewetson, Architect.

A LECTURER on art spoke before a group of men in an industrial city, urging upon them the duty of trying to put more beauty into their surroundings. At the close of the talk, a leading citizen came forward to have a few words with the lecturer.

"I enjoyed your remarks," he said, "though I do not agree with you. The fact is that we have no time here for beauty. The prosperity of this town is due to hard-headed, practical men."

"Yet," retorted the lecturer, smiling, "you, yourself, are seeking beauty, according to your lights. You may not know it, but I know you are aiming at what you think makes for greater attractiveness."

"No, you're wrong," insisted the hard-headed man. "I'm not interested in beauty."

"Then," said the lecturer, "if you don't mind my being so personal, will you please tell me why you have dyed your whiskers?"

* * *

Almost every architect is "tree conscious" at least to the extent of realizing that trees may be used in a most telling way to embellish a preliminary sketch. Many people apparently who have control of building subdivisions seem to think of trees as things that interfere with the placing of houses on their property and that might reduce the numbers that they could squeeze into a block.

The consequence of this lack of appreciation of the aesthetic value of trees is that more often than not they are all felled before the "improvements" can be started. If some solitary tree does happen to escape from the hands of the vandals, it quite often is ultimately left standing so close to a house that it has no room to show its beauty and is possibly mutilated to allow some trick garden wall, arch and gate or other tawdry feature to be built to catch the eye of the uninitiated and unsuspecting public.

Recently the "slaughter of the innocents" has been carried out extensively along Portola Drive, near Miraloma Park in the West of Twin Peaks district, San Francisco. A few months ago, Portola Drive was beautified on one side by many fine cypress and pine trees with a sprinkling of eucalyptus. Now they are all laid low and are rapidly being hacked into firewood. Originally this drive was lined on each side with trees which, except for a few left near Miraloma Drive, have been cut down.

No city can afford to allow all its natural beauty to be destroyed. We often see quoted in the newspapers that "San Francisco knows how" and yet such things as these are being perpetrated constantly. If the improvements in this immediate district can be taken as a criterion, the houses to be will be crowded so close together as to resemble the congestion of closely parked automobiles, and the occupants will have about as much privacy as Irvin Cobb's proverbial goldfish, and one could without being excessively athletic jump from one roof to another. We prate about our California sunshine and the houses in many sections are allowed to be so crowded together that it is almost impossible to get any sunlight through the side windows except with the aid of a periscope.

There are no trees left in this section to provide a setting for the homes or to

PENCIL SKETCH BY A. HEWETSON

mitigate the unpleasant aspect which bare houses present.

Doubtless these houses will be "Landscaped" in the approved way, but shrubs do not take the place of trees, however, we are thankful for small mercies.

We must not think that the redwoods are the only trees that must be saved. When we were in the mountains this summer, I made a sketch of a magnificent sugar pine on the shore of Fallen Leaf Lake and went back the next morning when the shadows were best to do the shading. Much to my disgust a telephone pole had been erected in the meantime almost in front of the tree. Presently the superintendent of construction appeared on the scene and I engaged him in conversation. I inquired if there was not some way in which the poles and wires might be concealed. He replied that his company had offered to cut a swath forty feet wide back in the trees so that they might run their wires there; he also added that the poles were a sign of progress! I said, "Well, thank of the good Lord the preservation of the beauty of the state is not solely in the hands of your company." It is gratifying to know that there is a national movement afoot sponsored by garden clubs and everyone who has the preservation of the beauty of the country at heart, to lessen the spoilation of the national forests to provide Christmas trees. The suggestion is that where possible a living tree, in a tub, be rented or bought from a nursery and after Christmas it be returned to the nursery or planted in some suitable place, that it may perform its functions in life, which is to provide shade and beauty and to be a place where birds may lodge and find shelter. If we think of trees merely in terms of so many board feet of lumber or so much pulp to make paper on which to print newspapers, we only see their commercial possibilities. We must wake up and raise our voices in protest at all short sighted destruction of trees wherever it may occur or be threatened.

Some weeks ago I saw a picture in the San Francisco Bulletin showing the harvesting of some of the 60,000 Christmas trees ordered to supply one city, namely, Portland, Maine. If this is a criterion of an average city's demands, think of what this probably means throughout the country. What a colossal waste! Because of the enormous natural resources of our country, the majority of people give very little thought to what may be happening to our forests and the average city dweller worries very little about what is happening to lessen the natural attractiveness of his city. The same citizen would probably tell you how much superior the buildings of San Francisco are to those of Los Angeles, etc.

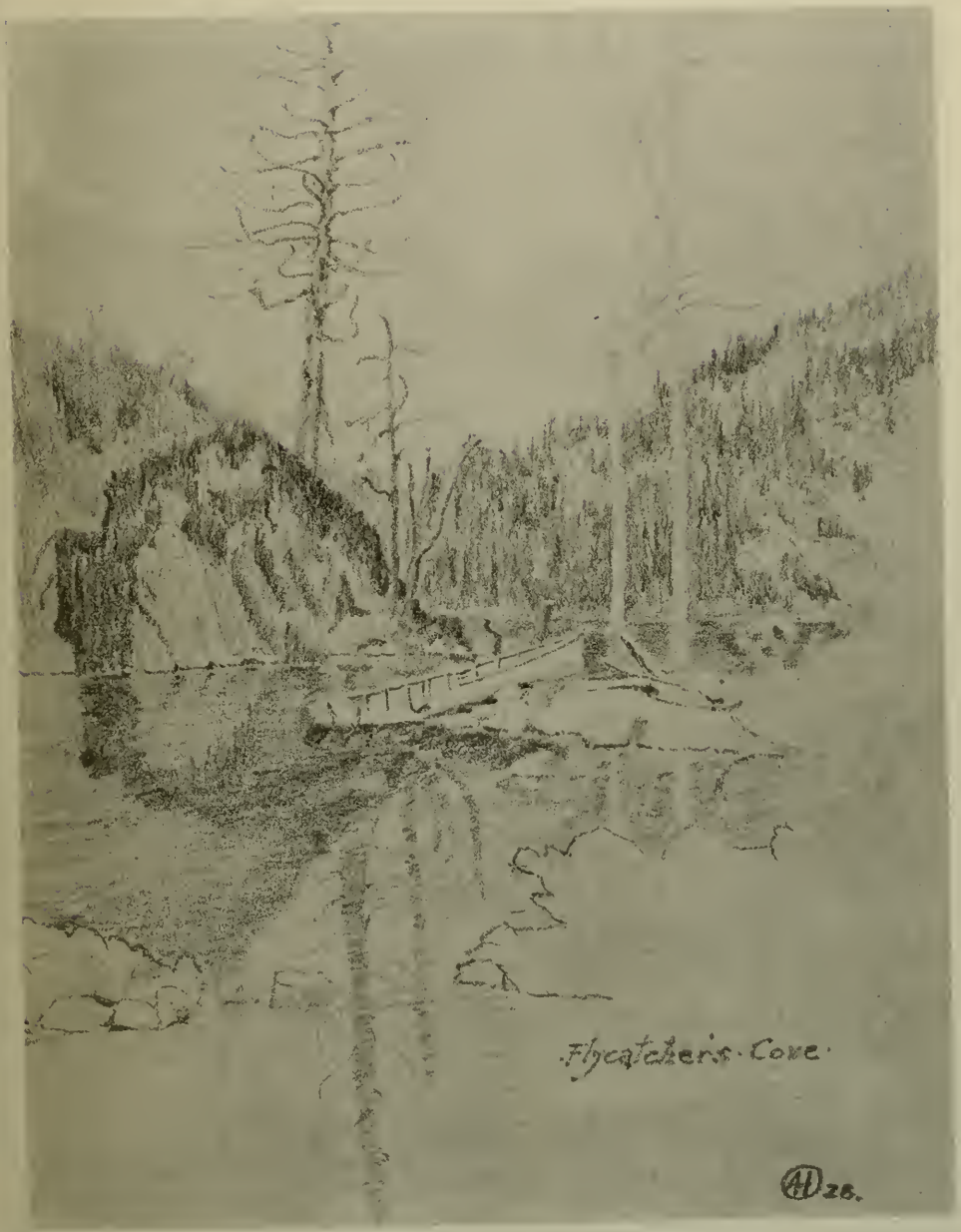
Recently visitors from Oregon in conversation with me were commenting on the scarcity of trees in San Francisco and also on the scarcity of interesting residential districts. Later, they said that they ultimately saw St. Francis Wood and concluded that San Francisco had at least one attractive residential section. On unimproved land bordering Miraloma Drive, east of St. Francis Wood, there has been a good deal of tree felling, but there are many beautiful trees left which would be behind the houses that would face on Miraloma. One might wish that after generous lot sizes were established, that some trees had been left that would be in front of the houses which ultimately will be built on the drive. These remarks may seem axiomatic to the majority of architects, nevertheless due to the haphazard way in which most of our residential sections are developed, it seems necessary to voice a protest in the hope that it will not fall on deaf ears and that even the hard headed business man will eventually see that beauty pays, if that must be the only way he will see it.

* * *

I think that I shall never see
A poem lovely as a tree
A tree whose hungry mouth is pressed
Against the earth's sweet flowing breast;
A tree that looks at God all day,
And lifts her leafy arms to pray;
A tree that may in summer wear
A nest of robins in her hair;
Upon whose bosom snow has lain;
Who intimately lives with rain.
Poems are made by fools like me,
But only God can make a tree.

—Joyce Kilmer.

PENCIL SKETCH BY A. HEWETSON



PENCIL SKETCH BY A. HEWETSON

PENCIL SKETCH BY A. HEWETSON

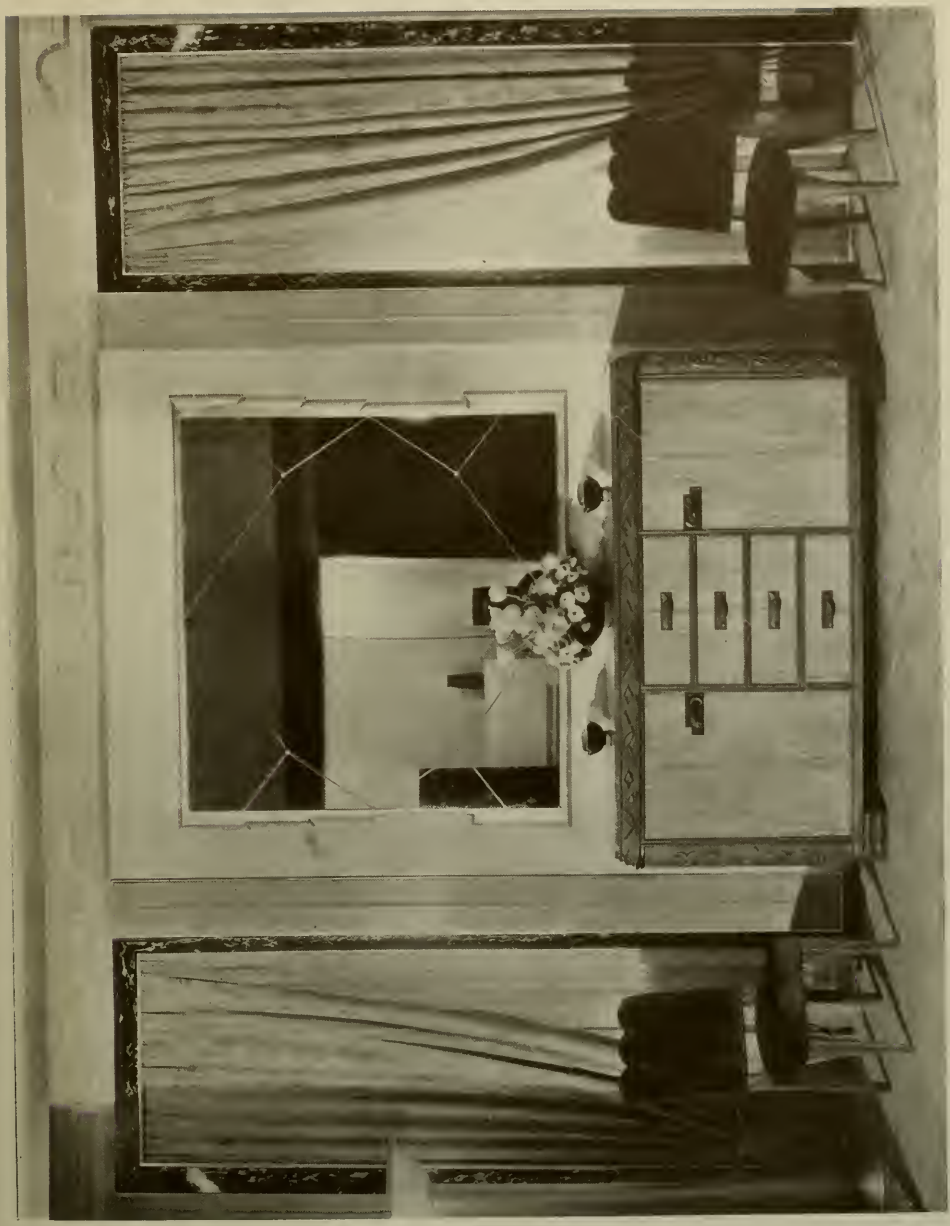
THE ARCHITECT AND ENGINEER: PORTFOLIO OF MODERN ART AND ARCHITECTURE

From Year Book of German Modern School

A Design Showing the Possibility of Combining Miscellaneous Material to Form an Interesting Rhythmic Composition

ARRANGED BY WILLIAM I. GARREN ARCHITECT

THE CENTRAL HALL. San Francisco's Exhibition of Decorative Arts. The architectural arrangement of the units was directed by Rudolph Schaeffer, the Pacific Coast exponent of modern color and design. The cool jade pool repeats the mechanical motifs of etched and leaded glass panels, designed by Fred Weisenburger. The scene glows with dramatic lighting effects.



THE LATEST TRENDS IN MODERN ART COMPRISE THE MOTIF IN THIS PICTURE

Photo by Alta Studios, Inc.

Photo by Alta Studios, Inc.

ANOTHER EXAMPLE OF THE MODERN TREND IN INTERIOR DECORATION AND FURNITURE

Courtesy of Creative Art

INTERIOR OF A SEMINARY IN BAMBERG, GERMANY

AN INTERESTING TREATMENT OF SPACE AND CONCRETE FORM

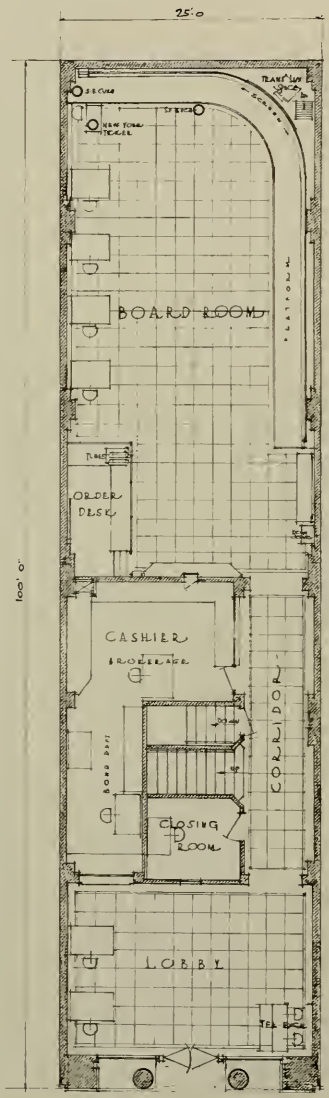
Courtesy of Creative Art

NIGHT ARCHITECTURE—A STUDY SHOWING THE USE OF VOLUMES AND LIGHTS IN THE CINEMA THEATER, BERLIN

Photo by Moulin

BUILDING FOR WILLIAM CAVALIER AND CO., OAKLAND, CALIFORNIA

HUGH C. WHITE, ARCHITECT



PLAN, BUILDING FOR WILLIAM CAVALIER AND CO., OAKLAND
HUGH C. WHITE, ARCHITECT

BOARD ROOM, BUILDING FOR WILLIAM CAVALIER AND CO., OAKLAND
HUGH C. WHITE, ARCHITECT

Photo by M. L. Cohen

Photo by Mott Studios

SECURITY TRUST AND SAVINGS BANK, SAN PEDRO, CALIFORNIA

ALFRED F. PRIEST, ARCHITECT

SECURITY TRUST AND SAVINGS BANK, SAN PEDRO
ALFRED F. PRIEST, ARCHITECT

SECURITY TRUST AND SAVINGS BANK, SAN PEDRO
ALFRED F. PRIEST, ARCHITECT

BANKING ROOM, SECURITY TRUST AND SAVINGS BANK, SAN PEDRO

ALFRED F. PRIEST, ARCHITECT

DIRECTORS' ROOM, SECURITY TRUST AND SAVINGS BANK, SAN PEDRO

CALIFORNIA SHOWS PROGRESS IN THE DECORATIVE ARTS.

By Genevieve Hailey

CALIFORNIA has recently insistently "gone modern" in her Second Annual Exhibition of Decorative Arts, held at the Women's City Club in San Francisco, under the inspiration of the San Francisco Society of Women Artists, of which Mrs. Arthur L. Bailhache is President, and joined by the Garden Club and leading artists and sculptors, architects and designers. Much of the successful presentation of the exhibition is due to the work of Rudolph Schaeffer who devised the central decorative scheme, tying the units into a composite whole. Schaeffer is known abroad as one of the outstanding colorists of America.

The furniture, in beautifully unified settings, proves that the "space arts" have become fine arts in this speed age. The principal ensembles were as follows: Garden Court, sponsored by San Francisco Garden Club under direction of Miss Jean Boyd, architectural design by Walter Steilberg; Court Yard, designed and decorated by Helen Forbes, assisted by Florence Swift and Marian Simpson; Man's Room arranged by Forest Brissey, from Hale Bros., Inc., funiture by Kem Weber; An Angular Alcove, including furniture, designed and edited by Lucian Labaudt; Dining Room, furniture designed by F. E. Baldauf, executed by A. F. Marten Company; Living Room, including furniture, designed by Rudolph Schaeffer, executed by A. F. Marten Company. Aside from the principal ensemble, there were special artists whose works deserve mention: Ceramics by Florence Richardson; Modern Drapes by Rose Pauson; Metal Work by Harry Dixon and Leaded Glass Panels etched and designed by Fred Weisenburger.

California courtyards whether roof garden or suburban must be as suitably fresh in decoration as San Francisco's skyline of business and residential towers. Far western lore of early days may be preserved in California's murals but the art of today reflects the newer international aspects. Each artist's racial tendencies and inborn capabilities attain a blooming growth in California's fertile art fields. Any European modernist may kiss the Californian decorative art designers on each cheek for distinguished service on the battle field of modern art.

World travelers and authorities on present day art trends find a vitality and consistency in the decorative arts of California, so that this recent exhibition commands applause with current European combinations of furniture and fine arts. Absolute fitness to purpose stabilizes the decorative arts and marks the passing of the easel painting school as it was formerly revered by picture buyers.

San Francisco's most capable artists are now experimenting with new mediums. Painted patios, wall panels and screens take the place of art that used to be hung in gilt frames. Metal finishes, lacquers and glazes of today equal in reliable surfaces and colors those of any superior periods of art history.

The ultra-modern mechanical and cos-

Illustrations in Plate Section.

mic themes of the far-searching in modern art are understood but not abused by the California decorative workers. Serene simplicity, gorgeous but not bizarre color and a good healthy momentum marks the decorative arts movement in California's Bay region.

Architecture is still properly recognized as the mother of the arts and "function dictates the form" as it has in all good periods where the fine arts are embraced as decoration. Free from confusions, this exhibition of work by western artists, is the finest showing of local works ever presented to the general public. The scoffers at the so-called "modernistic" fine arts no longer remained to say, "Pray, what next?" when they visited this Decorative Arts Exhibition.

TRUE MODERNISM YET TO ARRIVE

SPEED, mass-production, huge corporations, high-pressure salesmanship, advertising campaigns, and jazz are the truths of present day life which demand truthful expression in modern buildings, declares Gerald Lynton Kaufman of New York in a statement made public by the American Institute of Architects.

"Obviously," says Mr. Kaufman, "the most expressive product of the machine age, combining both speed and mechanism, is the elevator. The elevator made the skyscraper possible; its presence inside such a structure is emphasized by a predominance of vertical motives in the treatment of the facade.

"Steel, a product of machines, mass-production, and huge corporations, is also essential to the modern building. Considerations of climate prevent the actual exposure of steel on a facade, but nothing hinders the true expression of this form of construction, in the design.

"The products of the machine age, in glass, metals, and alloys, in tiles, terra-cottas, and concrete, offer an extensive alphabet with which to write for posterity the message of today.

"Modernism is trying to express this third dimension of truth. If materials are machine-made, let them proudly proclaim the fact, rather than hide behind false pretenses. If a building is erected by a large corporation conscious of the advertising value of its facade, let it have black brick, gold ornament and flood-lighting.

"If a purely commercial structure is built, let its lines express steel framing, elevators, glass-lit high-rent office floors, and machine-made ornament. Architecture is just beginning to know its age and to be self-conscious in its expression of today.

"In New York the Graybar, the Chanin, and the Park Avenue Buildings are expressions of this tendency; in Detroit the Fisher Building is an excellent example; and in Chicago the new Opera House, and unfortunately, the second prize design for the Tribune Tower,—the one that was just a few years too early to be understood, and built.

"If a true American architecture is to be developed, the average man must demand the honest expression of this third dimension of structure in the buildings that surround him, and must have it in his own mind, when criticising. Until this is required of architects, they will continue to produce New York Central Buildings, Ritz Towers, Wrigleys, Paramounts, and similar monstrosities glorifying movie-magnates or chewing-gum kings."

Explaining his principle of "three-dimensional criticism," Mr. Kaufman says:

"Good architecture must satisfy three major requirements: the practical, the structural, and the aesthetic.

"The aesthetic dimension is the simplest; it is all that is measured by the man in the street, when he says 'good' or 'bad,' meaning pleasing or displeasing to himself.

"The second dimension should be width: the practical. By a practical building we mean one which satisfies to a large degree, the use to which it is put.

"A modern bank building designed with a Parthenon facade, though it may be a modern American place of worship, cannot carry out Greek temple architecture in-

side and be practical. We satisfy the Board of Directors entirely with regard to the practical dimension, and if they insist on worshiping Athena at the same time as Zeus Drachma, we meekly place our order for a half-dozen Doric columns for the exterior, to be sent C. O. D. from the local dealer's.

"The third dimension is structural satisfaction. Why are we concerned with this at all? Why not leave it to the engineers and the Building Code? If the building stands up, it is structural. If not, we are spared the trouble of criticising.

"But we are to measure structural satisfaction with our minds, not with our slide-rules. We know enough about stone, unconsciously, to feel it is capable of spanning a short distance and bearing weight. But suppose we saw a stone lintel placed horizontally over an opening thirty feet wide?

"The fact of its standing unbroken might give us sufficient confidence to walk under it, but it does not satisfy us structurally. Something tells us we are seeing the impossible; there is trickery or deception about a thirty-foot stone lintel. We are confronted with structural dishonesty.

"We may know there is a steel girder inside, but we are none the less outraged for knowing how the trick is done. Something within us says that architecture should have truth as well as beauty, if architecture is to remain an art.

"Fortunately enough we do not see thirty-foot stone lintels every day. Such a structural lie as this is even too patent for the building loan companies who dictate to such a large extent just what our modern architecture shall be. But we do see equally dishonest construction, if once we take into our criticism this third dimension.

"We have almost everywhere about us the suggestion that a two or three story colonnade at the base of a skyscraper is supporting twenty of thirty floors of solid masonry above,—often including a tin cornice at the top made to decive us by a coat of paint into thinking it is also of masonry.

"The structural fact about the limestone colonnade is that it would be entirely crushed by the masonry above unless a steel frame behind the facade were doing the actual work. We are apt to remember having seen this steel framework, so that we are not afraid to walk in and take the elevator. But we have neglected to stand off before entering, to apply our third-dimensional standard of criticism, and we fail to ask whether or not we are being told structural lies in the architectural design.

"Modern architecture of our cities is now striving toward this third dimension of criticism. We are tired of false fronts; we wish to express the truth. We wish to create a demand for this truth on the part of our friend the average man as well as his spokesman, the board of directors and the loan companies.

" 'All very well,' the average man protests of modernism, 'but I do not like it.' Merely not liking it is not enough. The fallacy is the use of the word 'it' when there is no 'it.' True modernism does not yet exist; so far we have only been making studies for it. The buildings we mentioned as examples are actually but preliminary sketches.

"We do not wish to commit murder yet. Modernism is here; it has been born and one can hardly dismiss the baby with a mere 'I do not like it.'

"All we can do is to try to understand, and to give such understanding as we have the benefit of three dimensions of thought. We have thought long, about the aesthetic. We have perhaps thought broadly about the practical. Now let us think about the structural, and let us think deeply."

MY EUROPEAN IMPRESSIONS

By
C O Clausen Architect San Francisco

XV. EDINBURGH

THE situation of this ancient capital of Scotland reminds me of Athens. Like the Acropolis, we see the old castle perched on a high hill above the city.

From the battlements of Edinburgh Castle you get a fine view of the town and the waters of the Firth of Forth. The royal regalia and crown jewels of Scotland are kept in this historic old palace and in the banquet room is a fine collection of ancient Scottish armor. The son of Mary, Queen of Scots, was born in this castle and from one of the windows the royal infant was lowered down the steep slopes of the castle rock and taken to Stirling Castle for protection during some troublesome times. This child afterwards became king of Scotland and as James I, of England, united the kingdoms of Scotland and England in 1603.

The main thoroughfare of Edinburgh is the beautiful Princes Street with all its fine shops and fashionable restaurants. The imposing Scott monument faces on this street. This monument consists of a tall Gothic spire supported on four arches sheltering the marble statue of Sir Walter Scott and at his feet is the figure of his favorite dog, Bevis.

Holyrood Palace, within the city, was the home of Mary, Queen of Scots and her memory still seems to haunt the place. Here you may see the room in which Rizzio, the Queen's secretary, was murdered by her jealous husband. Adjoining the palace stand the ruins of Holyrood Chapel where Rizzio lies buried.

In the old section of the city is the house of John Knox, the noted reformer, who lived during Queen Mary's reign and who founded the Scotch Presbyterian Church. This old house is kept up as a memorial to its former owner and many relics and personal effects of the reformer are displayed here.

Edinburgh is the educational and art center of Scotland but it also has its commercial and industrial side. Two of the largest distilleries of Scotch whisky are located here and about seventy-five per cent of Scotland's beer is manufactured in the city. Many other important industries thrive here. I noticed that a dozen or more of the largest fire insurance companies in the world have their main offices in Edinburgh.

A short distance from the city lies the great pioneer piece of engineering, the Firth of Forth bridge, which is over a mile and a half long with its railroad tracks one hundred and fifty feet feet above the water. The central towers are three hundred and sixty feet high. This remarkable structure is built principally of tubular steel sections and was completed in 1890 after seven years of work.

FIRTH OF FORTH BRIDGE

ENGINEERING

and

CONSTRUCTION

NO TOOLS REQUIRED BY THESE WORKMEN IN CRIB CONSTRUCTION

Featuring

A New Type of Retaining Wall

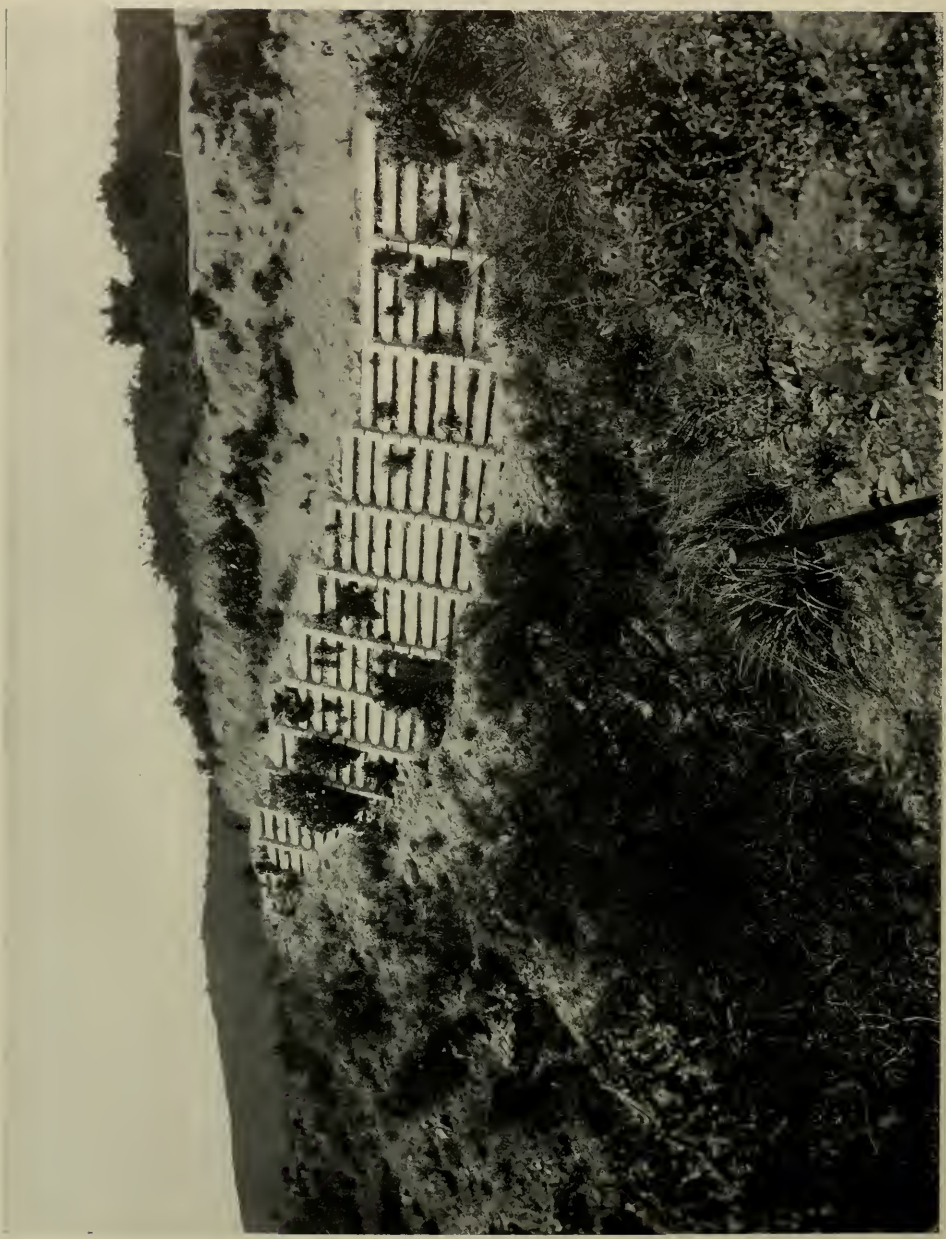


FIG. 1—RETAINING WALL OF CONCRETE CRIBBING ON THE FRIEDA WITTIG KOLB ESTATE

A TYPE of RETAINING WALL that COMBINES BEAUTY with ECONOMY

By: Fredk W. Jones

LANDSCAPE architects are continually faced with the problem of retaining steep slopes without introducing large unsightly masses of stone or concrete. One interesting solution of this problem which is being widely adopted is offered by a suitable design of precast reenforced concrete cribbing. Engineers and architects who have had experience with this type of construction report the first cost lower than for monolithic walls, greatly increased convenience in handling the work and a finished appearance that is both distinctive and pleasing, blending readily with the landscape by planting.

The drawings reproduced herewith show clearly the design of the two simple units which comprise this cribbing and the manner in which they are laid up to form a wall. The rectangular "cribs" are filled with earth to provide the necessary weight for wall stability.

The units are made by the Massey Concrete Products Corporation under factory conditions in modern plants throughout the country.* This concrete cribbing costs considerably less in place than a mass concrete wall, not only because less material is required, but because of the low cost of erection. The closeup picture shows two workmen building a wall with no special tools or equipment. The general construction view shows a California installation being backfilled. This illustrates two important features: the splendid batter on the wall and the comparative ease of laying a uniform curve.

Under ordinary conditions no foundation is necessary for walls of medium height except in locations where the ground is soft. The practical elimination of breakage and the high salvage value of these cribbing units are additional factors of economy. The simplicity of the units makes it possible to handle and ship them with little or no breakage. If handled with reasonable care, the salvage value is 100%.

But landscape architects are probably most interested in the artistic possibilities of these cribbing walls. From the standpoint of ap-

PICTURE SHOWS GENERAL CONTRUCTION VIEW BEING BACK-FILLED

*On the West Coast these plants are located at Colton, California; Spokane, Washington, and Salt Lake City, Utah.

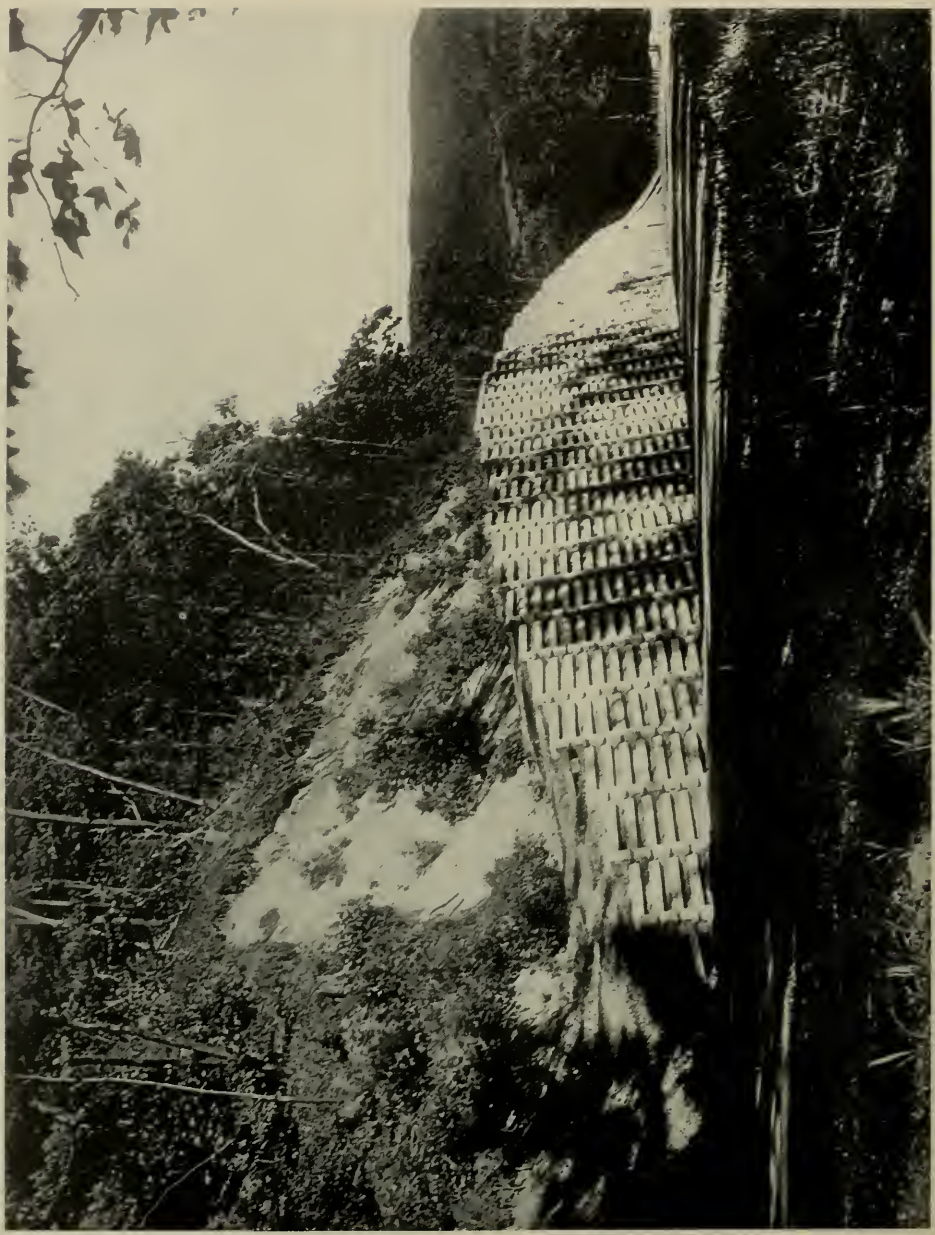
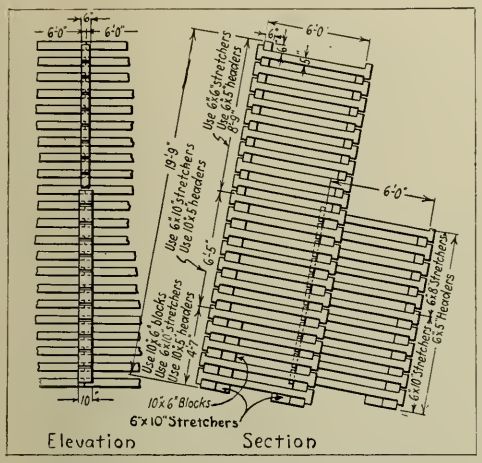
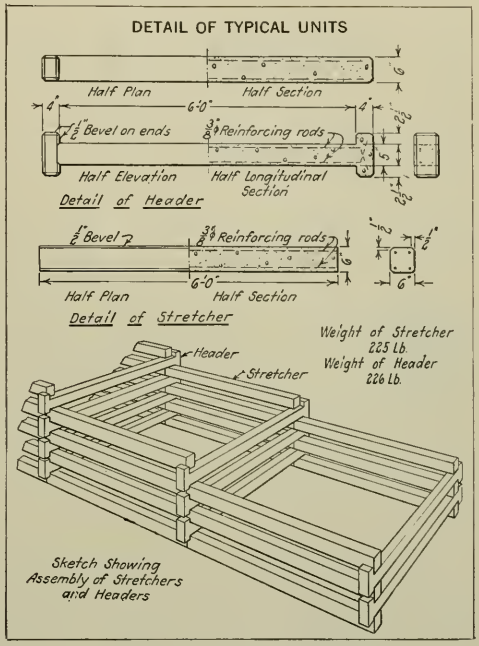


FIG. 2—CONCRETE CRIBBING, RETAINING STEEP SLOPES ALONG STATE HIGHWAY IN MASSACHUSETTS



ELEVATION AND SECTION OF CRIBBING



TYPICAL UNITS OF CRIBBING

pearance there are two fundamental differences between cribbing and monolithic walls.

First, the cribbing does not present a plain surface to reflect light and to clash in shape, color and texture with every other element of the landscape. It is architecturally pleasing and its large proportion of space between units minimizes light reflection and the impression of abnormal size and mass.

Second, the exposed soil in the face of this wall can be used for growing vines and a variety of native shrubs. This unique advantage permits a wall to be practically concealed or blended into the general scheme of planting and presents a much more picturesque appearance than a plain concrete surface. A wide range of interesting treatments is presented to the user of these cribbing walls. Without any sacrifice in utility or permanence—and indeed with considerable economy — the architect may work cribbing walls into his plans, leaving the matter of planting, optional with his client or landscape gardener. Or the architect, himself, may carry out the beautification scheme to harmonize with his other work.

Figure 1 shows a new retaining wall of concrete cribbing on the Frieda Wittig Kolb Estate, Bel-Air, Beverly Hills, California, and reflects the possibilities of blending such a wall harmoniously into the landscape by planting. George Washington Smith of Santa Barbara was the architect.

Figure 2 shows how concrete cribbing for retaining steep slopes has been widely adopted for state highway work in Massachusetts.

The ARCHITECT'S VIEWPOINT

¶ *The A. I. A. Convention*
¶ *The Washington Plan*
¶ *Pennsylvania Avenue Control*
¶ *"Lay" Criticism*

CONTRIBUTING EDITORS
WILLIAM C. HAYS . . *San Francisco*
CARLETON M. WINSLOW . *Los Angeles*
HAROLD W. DOTY . . . *Portland, Ore.*
CHARLES H. ALDEN . . *Seattle, Wash.*

THESE notes are written in Washington. The Congress of the United States is in one of those sessions designated as "extraordinary." So are the architects! For there is always something unusual in the "regular" annual convention of the American Institute. The Architects' meetings go on, too, notwithstanding the special counter attraction in the Senate chamber (where at this writing St. George—in the appropriately white clad person of Senator James Thomas Heflin of Alabama—daily occupies the Field, or floor, to defy the Dragon—in the shy person of that "Pope's emissary" who threw the now historic beer bottle of Brockton—and demands that the solons lay aside such trifles as Farm Relief to defend their senatorial dignity).

The Convention is a deliberate, working body of men disinterested enough to give of their time and wisdom for the nation-wide advance of Architectural achievement. There are gathered together, the usual quota of addicts and congenial "rotarians," a sprinkling of neophytes, the busy committee men and, of course, tired Directors, who have been meeting at three sessions per day, for the last three days.

What makes this year's convention "extraordinary," in contrast with almost *all* previous sessions, is the fact that the tangible result of eight years of contact with the Federal Government—mainly through Milton Bennett Medary as *officer de liason*—is being reported to the American people and accepted by their representatives!

There can be but one topic of first significance from the "Architects' viewpoint" at this time. All else slips away to a far horizon when a "close up" reveals the meeting at the U. S. Chamber of Commerce, by invitation of the Department of the Treasury, to present—directly to official Washington and the American Institute of Architects and—indirectly, by radio broadcast, to the People—what progress is being made toward that imagined "Federal City" foreseen by President Washington, as planned and set down on paper by Major L'Enfant so many decades ago. Those who presented this picture were *not* visionaries, and there was no talk of futile dreams. Adequate action is assured by the list of speakers: The President of the United States, the Secretary of the Treasury, the chairmen of the Public Buildings Commission and of the Committee on Public Buildings and Grounds, House of Representatives; and *well-directed* action is assured by the list of technical experts: Milton B. Medary, Edwin H. Bennett, Arthur Brown Jr., William Adams Delano, Louis Ayres, and others.

* * *

SECRETARY MELLON, presiding, recalled the participation of the representatives of the Federal Government, including President Roosevelt in a meeting held twenty-five years ago at which the American Institute of Architects was host. He recalled the favorable attitude then shown toward systematic, beautiful planning for Washington as revived from the almost forgotten L'Enfant plan and revised, to meet new conditions, by that great group comprising McKim, Burnham, St. Gaudens, Olmstead and their associates in the so-called "McMillan plan." He pointed out that,

through the years, numerous units of the McMillan plan have become realities and that others, almost at the point of beginning construction, had been interrupted by the World War. He gave assurance that the "temporary" structures for "war emergencies" will be taken down. (France, by the way, had all of her removable scars and reminders of similar character on the scrap heap years ago!) Instead of hearing such phrases as "at the earliest possible moment" and "in the not too distant future" we heard of "moneys voted and waiting," "lands bought and others being bought" "concrete foundations being built."

President Hoover followed with a typical address, authoritative with sure knowledge—and voiced his conviction, first, of the immediacy of the need and, second, of confidence in the human agencies upon whom he depends.

Senator Reed Smoot, Chairman of the Public Buildings Commission and Hon. Richard N. Elliott, Chairman of the Committee on Public Buildings and Grounds, House of Representatives, brought also the endorsement of the authorities represented by them.

Mr. Medary's presentation of the Architectural phases of the problem, the showing of an interesting motion picture, prepared expressly for the Government, and, particularly the first viewing of the great model of the future buildings for the Triangle group, made a vivid impression of what may be expected within the coming years.

* * *

AS everyone knows, the heart of the Washington City plan lies between two streets, forming a V, which diverge from the Capitol and lead toward the West and Southwest. On the axis (visually, although only approximately) bisecting this V is the "Mall"—now largely theoretical—extending west to the Washington Monument—and beyond the White House axis to the long reflecting pool and the Lincoln Memorial. Two narrower streets, parallel to the Mall and defining its boundaries, cross these divergent streets and enter into the V, at perhaps the one quarter points from the Capitol. The parallel street north of the Mall is B street and, as everyone also knows, the divergent to the North is Pennsylvania Avenue, the direct way between the Capitol and the White House. The Triangle between B street and Pennsylvania Avenue is the area to the development of which, at a cost ultimately of hundreds of millions, the govern-

ERRATTA:

On page 100, in the third line of the second paragraph the phrase "the usual quota of addicts and congenial 'rotarians,' should read "the usual addicts and *congenital* 'rotarians'."

On page 102 in the third paragraph the phrase reads "To wrangle with the spectacular in a fifty-foot lot . . . " where the author wrote "To wrangle with the *speculator* in a fifty-foot lot . . . "

ids, closing streets, ive two main front- nvironment will be d here is the little private ownership leigh Hotels, to similar nondescript gs on that North ule, like the L'En- overnment program mmercial value of —it soon will be immense) is by way of becoming a federal "gift" to the present owners and future speculators.

* * *

THIS year's report of the Institute Committee on Public Works—of which the writer happens to be a member—contains the significant warning: "The solicitude of the Institute is reasonably concerned with the further interest that private develop-

[Please turn to next page]

ment, notably on the North side of the Avenue, shall be brought under such control as shall ensure the harmonious relation with the monumental and challenging aspect which it is bound to confront."

At present the federally made building laws of the District of Columbia permit a cornice height of 110 feet—exclusive of set-back pent houses which are limited to a total of 130 feet. These laws have been construed to permit a building 177 feet high which is already built! The height of the new Federal buildings *is to be only 90 feet!*

Studies made for some sort of control of these private holdings on Pennsylvania Avenue show serious, competent work. But what they seem to say, mainly, is that at this stage, the job is not one of *design* of buildings, but of *organization,* into a comprehensive, orderly scheme—of private owners —through "discourse of reason," or subsidy, or otherwise; or, better still, into a full program of Government ownership. But the studies shown at Washington are predicated on non-basic, dual premises, first, that "small parcel" ownership must be accepted as irremediable and, second, that nothing more can be done than to prevent worse liberties being taken in the future than in the past. Nobody seems yet to have openly tackled what, I humbly suggest, is still the greatest problem. Twenty or thirty years from now our successors will properly blame our generation as having done nothing if any small individual "holdings" remain on the North side of Pennsylvania Avenue!

To wrangle with the spectacular in a fifty-foot lot as to whether he shall build higher than the governmental buildings, (twenty or forty feet—or virtually twice as high) is to debate his thumbing of his nose at those other, his hundred and some odd millions of "created equal" fellow citizens.

Real property, whether urban or rural, is owned primarily for profit, in terms of current income plus accruing values, and there are real difficulties to overcome in attempting co-ordination. Can the owners of a dozen "parcels," if they pool their interests and forfeit individual management get, and be assured of a continuing "even break?" And, by the way, what is an "even break?" Obviously, since property itself is inert, there are differing "earning powers" dependent upon the owners. On adjacent farms, one man may prosper and another fail. On city properties, one owner may build wisely, get "good" tenants, and collect his rents. His neighbor may fail in any or all phases as a landlord. Can consolidation bring the weak up to the earning powers of the strong, and, if so, will some weakling imagine that he is "getting a raw deal?" Or will there result "the survival of the fittest" as usually happens, under either individual or collective operation?

Now, to the typically individualistic American there is lure as well as pride in a visible, personal possession. "That's mine" (with ascending accent) has an agreeable sound. "Show me!" he says to the suggestions of advantages—to him—of cooperation. To visualize one's fractional share in a large enterprise involves that power of imagination with which we are not all equally supplied. All these difficulties in the way of adequate control over private ownership may conceivably leave public ownership as the only choice.

Let President Hoover's fellow Californians suggest that the big, the *only,* idea worth consideration is that of *consolidating all* holdings on that "north side" into unbroken frontages and eliminating the narrow, high, individualistic structures, since they can never play in with the long, *horizontally* composed buildings in the "Triangle" across the way. As to the immediate situation, no buildings should be permitted in the district affected except upon the present owners' acceptance of justifiable conditions. Our advice, whether volunteered or sought, should be as to the *whole* and *not* a compromised part, for these are what the present and future Administrations will want to accomplish. Meanwhile, someone who knows the trend of regional developments in Washington should be preparing to answer the question, "If we get it, what will we do with it?" for President Hoover is a practical kind of idealist.

There are two sides to every question, so let us ask ourselves: "why limit the height of our government buildings in an age when our typical urban triumph is the tall building?" By way of answer, let us quote: —"Imagine the effect (on France) and its people of the introduction of Americanism; the sky-line of Paris broken by steel-skeletoned skyscrapers, dwarfing the towers of Notre Dame," and instead of Notre Dame let us read, "the Dome of our National Capitol!"

* * *

THE subject of proletarian judgment on works of art is suggested by certain acrimonius comments upon the exterior design for the Veteran's Building portion of the San Francisco War Memorial, quoted from some of the Veterans recently in the daily papers. Of all artists the architect is entitled to no special immunities and should need none. Almost the contrary is true. By virtue of his presumed claim of expert qualification and his public license to practice, an architect has the privilege, and by correlary, the inherent responsibility of challenging public attention, for he displays his "wares" on the world's biggest bill-boards. There is no *lese majeste* in criticism itself, and the public will not be "shushed" into silence by the whisper of a name. However, no works are to be judged in an ungenerous spirit or without knowledge of the conditions limiting their production. And few sets of conditions offer any prospect of producing a master-piece!

The artist knows that he will often fall short of his self-set standards and is, therefore, a harsh self-critic. He also invites and welcomes criticism from other experts; but even an omnipotent Creator would have been powerless to raise Mt. Everest without its environment of valleys and foothills!

Everyone qualified to form judgments recognizes the two buildings of the War Memorial as being, not isolated creations, but parts of a great group and, further, knows it to be axiomatic; first, that in any such composition one distinguished element must be an unchallenged dominant, while others as tributaries (architecturally, not functionally speaking) have the role to contribute to the picture and, second, that "accents used everywhere are used nowhere." In this case, the City Hall dome is clearly the focus to which the facades of the Opera House and the Veterans' Building may worthily and even nobly lead up. A victory need not necessarily be a "knock out." There are those who believe that the World War was won "on points!"

WILLIAM C. HAYS.

EDITORIAL CHAT

WITH the advent of Neon lighting, the use of signs on commercial and even public buildings, has become so general that architects find it necessary to provide for these signs in their plans. Time was when the erection of a sign was an afterthought. Now provision for them must be made in advance if the architectural lines of the building are to be preserved. Only the other day, an architect called my attention to an ugly sign that had been nailed across the front of a theater he had planned. He had figured that the signs on the marquise over the entrance would suffice but when the building was finished the manager desiring a more elaborate night illumination, erected a ponderous Neon sign at the cornice line. It has simply ruined the architecture of the building.

Not only must the architect anticipate provision for night illumination but he must provide suitable day entablatures, lettering or paneling to identify the occupant of the building. A demand for signs is admittedly a commercial necessity, therefore, it is up to the architect to provide for them in advance and make them harmonious with his design.

* * *

WE have seen the first batch of preliminary studies for the 1933 Chicago World's Fair. There is nothing particularly sensational about them. The members of the commission charged with the important task of working out a plan, have each submitted his own idea of the scheme and the good points will be embodied in

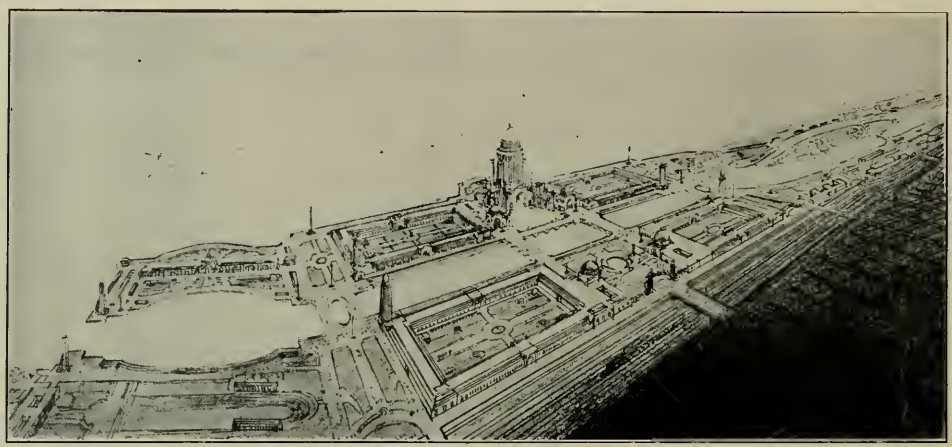
the final conception. A "Parti," combining the more important elements of several schemes, has been accepted. This embraces (1) The Hall of Science, which dominates the composition; (2) The Water Portal; (3) The Twenty-third Street Axis; (4) The South Lagoon; (5) The Proposed Airport; (6) Site of Horticultural Building; (7) Site of Festival Hall.

The fair is to be held along the lake front, partly on the mainland and partly on a group of man-made islands which will extend north and south for a distance of about 50 city blocks. The north end of the exposition will be almost in the heart of the city, with the dominating science building located just south of 23rd St., an east and west thoroughfare. The land area for development, lying north of 39th St., contains about 815 acres while the lagoon adds almost 200 acres to the total. The 287 acres of Grant Park to the north may also be utilized.

To avoid the fatigue which has been experienced in the past by visitors to other expositions, and which might be expected to be greater here in this larger area (the 1893 fair comprised 636 acres), the architects decided to adopt a system of moving sidewalks extending throughout the scheme. Also, since the land is practically at water level, they decided upon a network of canals passing through and between the buildings so that noiseless electric launches can be added to the transportation facilities designed to reduce foot-weariness.

With the same thought of designing the whole completely, the arrangements for lighting the exposition are being provided for from the beginning, so that the exposition at night will be one huge system of "permanent fireworks" controlled so as to achieve a tremendous dynamic effect.

The fact that many thousands of people will view the fair from the air is influencing the designers to consider the purely aesthetic aspect of the plan to a larger degree than heretofore. It will have to be composed as a giant piece of jewelry.



PROPOSED EXPOSITION GROUNDS FOR CHICAGO WORLD'S FAIR CENTENNIAL CELEBRATION
Perspective Plan by Arthur Brown with Dominant at foot of 23rd Street Axis

Unquestionably the planning of this great fair is in good hands. The architects who comprise its membership are all nationally known. They are our own Arthur Brown, Jr., Harvey W. Corbett, Paul T. Cret, Raymond N. Hood, Ralph T. Walker, Edward H. Bennett, Hubert Burnham and John A. Hollabird.

We illustrate on this page, Arthur Brown's conception of the plan. The drawing shows one of the early suggestions which is more static than some of the later studies. There is abundance of dignity, however, in Mr. Brown's arrangement. F. W. J.

WITH *the* ARCHITECTS

CARMEL HOTEL

Messrs. Blaine and Olson, 1755 Broadway, Oakland, have been commissioned to prepare plans for the first unit of a hotel at Carmel to cost $100,000. This building should not be confused with the Lincoln Inn designed by the same architects and now under construction. The plans call for a $200,000 building, but only the first unit will be built this summer. John Joran, who is the proprietor, has just returned from Europe.

These same architects have had their plans approved for a two story reinforced concrete addition to the Crocker Highlands School, Oakland, at a cost of $100,000. They are also the designers of a two story frame and stucco church for the Melrose Baptist Church at Melrose.

EIGHT STORY BUILDING

The architectural firm of Willis Polk & Company, San Francisco, have awarded the contract for an eight story reinforced concrete printing and publishing building on Sansome and Washington streets, San Francisco, to Barrett & Hilp. The owners of this structure are the Hilbar Properties Company of San Francisco and it will cost $250,000.

$2,000,000 OFFICE BUILDING

Allison and Allison, architects in Los Angeles, have completed working drawings for a $2,000,000 office building to be located at 5th and Grand streets, Los Angeles. It will be a thirteen story structure with a basement and sub-basement for garage purposes and of Class A construction. The owners are the Southern California Edison Company.

STOCK EXCHANGE BUILDING

Samuel E. Lundeen and John and Donald B. Parkinson, Los Angeles architects, have been commissioned to prepare plans for a Class A stock exchange and office building to be erected on Spring street, between 6th and 7th streets, Los Angeles, for the Los Angeles Stock Exchange. The cost of this structure will be $1,000,000.

40 STORY "ART CENTER"

What is termed the "world's largest music and art center, with residence studios," a 40-story, $10,000,000 structure, is projected for Central Park South, New York City, and will be operated by the same company which controls The Barbizon, well-known woman's studio hostelry. According to the plans, the Barbizon-Plaza Art-Music-Residence Center, as it will be known, will be a complete artistic residence community within one structure, housing studios, recital halls, art exhibits, as well as living accommodations.

FIFTEEN STORY APARTMENTS

A fifteen story Class A apartment building is to be erected at California and Laguna streets, San Francisco, from plans by Douglas Dacre Stone, Great Western Power building, Oakland. The owner is Adolph Tiscornia of San Francisco and the estimated cost is $800,000.

Mr. Stone is also preparing plans for a twelve story and basement reinforced concrete apartment building at Joyce and California streets, San Francisco, for the Marion Realty Company and costing $350,000.

HOTEL TO GO FORWARD

With the contract already let, construction of a $1,250,000 resort hotel at Sleepy Hollow Ranch, near Fairfax, Marin County, California, is scheduled to begin within a month, according to officials of the Western Management and Finance Company of San Francisco. Work is to be started first on a seven-story and basement building of steel frame and concrete from plans by H. C. Baumann, San Francisco architect. The Lindgren-Swinnerton Company will have charge of construction.

STEEL FRAME BUILDING

Messrs. O'Brien and Peugh, 315 Montgomery street, San Francisco, are preparing plans for a two story and basement steel frame building at 7th and K streets, Sacramento, for Louis R. Lurie, costing $80,000. The Industrial Construction Company are the contractors.

25 STORY SAN FRANCISCO BUILDING

Preliminary sketches have been prepared by Messrs. Hyman and Appleton, San Francisco, for a twenty-five story Class A office building at Sacramento and Sansome streets, San Francisco, for the Zellerbach Interests. Barrett & Hilp will be the builders. The plans at present are in a preliminary state, however. The structure is estimated to cost approximately $4,000,000.

TO REBUILD BURNED THEATER

The Golden Gate Theater and Realty Company have commissioned Reid Brothers, architects, San Francisco, to completely restore a theater in the Fairfax District on East 14th street, Oakland, the entire interior of which was recently gutted by fire. The improvements will cost $70,000, exclusive of a new pipe organ and furnishings.

FRENCH TYPE APARTMENTS

Clay N. Burrell, American Bank Building, Oakland, is preparing working drawings for a three story and basement frame and stucco French apartment building on Park Boulevard, Oakland, to cost $65,000.

SACRAMENTO CLUB BUILDING

Messrs. Dean & Dean and Starks & Flanders of Sacramento, are the architects of a seven story Class C club building at 9th and M streets, Sacramento. It is to be erected for the Sutter Club at a cost of $200,000.

WILLIAM VOLKER BUILDING

George W. Kelham of San Francisco, is preparing plans for a five story Class A factory building, located at Howard and New Montgomery streets, San Francisco, the owner being the William Volker Company, and the cost $150,000.

GRAMMAR SCHOOL BUILDING

William H. Weeks, with offices in San Francisco, Oakland and San Jose, has completed plans for a frame and stucco school building at Campbell, Santa Clara County, to cost $25,000.

STORE BUILDINGS

Plans are being prepared by Earle Baldwin Bertz, architect in San Francisco, for three buildings of reinforced concrete at Burlingame for Martin Stelling, Jr., San Francisco, to cost approximately $150,000.

THE NEW SHELL BUILDING

Piercing the San Francisco skyline to a height of 380 feet the new 28-story Shell Building will be one of the tallest structures in the city. The Shell skyscraper will be topped only by the central tower of the Russ Building and the penthouse on the Telephone Building. It represents an investment of $3,000,000 and will be a notable addition to the San Francisco financial center. The new building should be ready for occupancy by Shell on May 1st, 1930.

The architect is George W. Kelham. The first ten stories will occupy the entire street frontage of the site. Above them will rise a central shaft, 88 feet square and 18 stories in height. the top floor being 28 stories above street level.

In general the building's decoration will be a modern adaptation of the Gothic, with clearly defined vertical lines to accent the height, which is the present trend in many of America's finest buildings. A well studied entrance on Bush Street and distinctive treatment of the upper eight stories will carry out the style. Flood lighting will be used to accentuate the beauty of the building at night. Construction will be of steel and reinforced concrete.

$100,000 BANK BUILDING

Plans have been completed for a two story Class A addition and alterations to an adjoining two story building at Chester and 20th streets, in Bakersfield for the Bank of Italy. The building was designed by H. A. Minton and is to cost $100,000.

BRICK VENEER RESIDENCE

Henry H. Gutterson, 526 Powell street, San Francisco, has completed plans for a $25,000 frame and brick veneer English type residence at Atherton, San Mateo County, California, for Clarence Walter of Atherton.

SANTA ANA FACTORY

The Engineering Department of the Pittsburgh Plate Glass Company of Pittsburgh, have prepared plans for a $4,000,000 brick and steel factory building at Santa Ana.

DETENTION HOME

The architectural firm of Binder and Curtiss of San Jose, have completed plans for a two story Class A detention home to be built at Market and St. James streets, San Jose, at a cost of $100,000.

AMERICAN ARCHITECTURAL LEAGUE

Commemorating their forty-fourth Anniversary, The American Architectural League opened the annual New York Architectural Exhibition, April 15th.

The exhibition covered not only architecture but sculpture, painting, decorating, landscape architecture and the work of the master craftsmen in all the allied arts associated with finer things in building.

New York is to be highly complimented upon the splendid manner in which this exhibition was housed, but the directors (members of the American Architectural League) must be given the palm for the arrangement of so vast a display.

Besides room after room and salon after salon of scale, measured drawings, perspectives, renderings and photographs of some of the most outstanding architectural projects on the Atlantic Coast, one saw suites of small rooms designed and furnished in Louis XV and Louis XIV periods as well as some admirable suites in the new modern feeling, complete to the last detail of rugs, drapes, lighting effects, doors, grilles and decorative hardware.

Gardens and garden furniture in the classical as well as the moderne, came in for their share and were admirably treated.

Church architecture and interior treatments had their niche also—one detail seen and admired especially by the writer was the treatment of the apse of St. Bartholomew's Cathedral, done completely in mosaic, a beautiful and dignified composition, in gold, blues and crimsons.

One large salon was given over to one hundred paintings and contained several pleasing and some rather striking canvases.

Individual material supply firms were well represented with small nicely arranged booths, demonstrating the uses of flooring, tile work, heating devices, wall coverings in plaster and the newer processes. Even structural steel came to the fore in a well grouped display of one of the leading steel companies of the country.

On the whole the exhibition was a remarkable display of the progress of the American builder, who has no equal in the world at the present day and who with all his allied co-workers, the designers and master craftsmen in applied arts, can well be said to stand at the forefront of construction and magnificent enterprise of the modern world. E. N. K.

FITZPATRICK ADDRESSES EASTERN CLUB

At a well attended dinner meeting, the Gargoyle Club of Saint Paul was host to F. W. Fitzpatrick, of Evanston, Illinois, whose writings are familiar to ARCHITECT AND ENGINEER readers.

Mr. Fitzpatrick informally addressed the club on a variety of subjects, his principal theme, however, being a commentary on modern design and a general combing over of existing fallacies. Mr. Fitzpatrick then took his inspiration from the questions of those present and this led the discussion through many varied topics and experiences.

After the meeting adjourned half of those present surrounded the guest and for another hour he conducted a round-table talk on a multitude of subjects.

Although a major part of his business is the preparing of competitions, he, at least mildly, decried the system as inefficient, inconclusive and often in error as a means of deciding real merit.

PERSONAL

FREDERICK H. MEYER, architect, announces the removal of his offices to Rooms 516 and 517 Underwood Building, 525 Market street, San Francisco.

SMITH O'BRIEN, architect, announces that he has moved his office to 110 Sutter street, French Bank Building, San Francisco.

ATLEE B. AYRES and ROBERT M. AYRES, architects, announce the removal of their offices to the 30th floor of the Smith-Young Tower Building, San Antonio, Texas, and for which they were the architects. The firm will be pleased to receive manufacturers' catalogues that are in accordance with the requirements of the American Institute of Architects.

The R. A. HEROLD COMPANY, P. J. HEROLD, manager, successors to the late R. A. Herold, for many years a practicing architect in Sacramento, are retiring from business there. P. J. Herold, who has visited Europe twice in the last two years, will move to San Francisco shortly and devote his time to modern architecture and painting.

SOLDIERS' HOME BUILDINGS

Messrs. Walker and Eisen, architects in Los Angeles, are preparing plans for a group of reinforced concrete buildings for the Soldiers' Home at Sawtelle, California, costing $1,000,000.

SCHOOL GROUP

Plans are being figured by W. Horace Austin of Long Beach, for a group of brick intermediate school buildings, in Compton, California. to cost $120,000.

SOCIETY and CLUB MEETINGS

NORTHERN CALIFORNIA CHAPTER

The regular meeting of the Northern California Chapter, A. I. A., was held at the California School of Fine Arts on April 30th, at 6:30 p. m. The meeting was called to order by President Harris Allen.

The following members were present: C. F. Ashley, Harris Osborn, Lester Hurd, E. Geoffrey Bangs, Morris M. Bruce, Harry M. Michelsen, Ernest L. Norberg, John H. Christie, Harris C. Allen, Henry H. Gutterson, L. B. Miller, A. McF. McSweeney, Wm. Clement Ambrose, Raymond W. Jeans, George R. Klinkhardt, Albert Schroepfer, John B. McCool, Ernest E. Weihe, Ralph Wyckoff, Ernest H. Hildebrand, Birge M. Clark, James H. Mitchell, John J. Donovan, Frederick H. Reimers, Wm. Wilson Wurster.

Guests present were: Messrs. Rudolph Schaeffer, A. L. Pickens, and John Norberg.

E. L. Norberg, Chairman of the Standardization Committee, reported favorably on conferences with various lumber associations, relative to their request for an endorsement of uniform standard sizes for lumber. A motion was unanimously carried that the Chapter endorse the American Lumber Standard, as established by the National Lumber Manufacturers Association, the West Coast Lumber Association, and the United States Department of Commerce, and approve that all lumber be grade marked.

Raymond Jeans, chairman of the Exhibit Committee, reported on plans for the Architectural Exhibition to be held in June, and urged the cooperation of all members to make it a success.

Mr. Gutterson reported on the publicity campaign.

A letter was reported from the San Diego Architectural Association requesting the endorsement of Mr. Gill for appointment to the State Board of Architecture, Southern District. Inasmuch as the appointment shall be made from Southern California Chapters or Associations, it was the opinion of the meeting that the Northern California Chapter should not enter into the matter.

Ralph Wyckoff spoke on proposed changes in the lien law, and he was appointed a committee of one to inform the Chapter of any new legislative enactments pertaining thereto.

Rudolph Schaeffer spoke on the use of color in Architecture. In his opinion the three primary aspects of building are material, commodity, and delight and he dwelt upon the last aspect—delight—in which form, light, and color are the visual elements, which cause architecture to be pleasing to the senses or otherwise. His further enlargement on the application of color was full of valuable suggestions.

A. L. Pickens, who is making an investigation of termites for the Sante Fe Railroad and the Southern California Telephone Company, gave a very interesting talk describing these insects and illustrated with lantern slides the tremendous damage caused by them.

The Chapter is appreciative of the kindness extended to it in being permitted to hold the meeting at the California School of Fine Arts. The yearly exhibit of the work of the art students was on display and prior to dinner those present whiled away a pleasant hour through the various galleries, observing the collection.

SOUTHERN CALIFORNIA CHAPTER

National committee reports and chapter business occupied the April meeting of the Southern California Chapter of the American Institute of Architects at the University Club April 9.

The question of publicity both through newspapers and by radio was considered by the chapter.

David J. Witmer, chairman of the local honor award committee, read the report of the national committee, which recommended that all chapters adopt the honor award program and stated that the fundamental reason for these annual programs was "to set up in each community good examples of architecture that the people in those districts might have a greater appreciation of good architecture."

Eugene Weston, chairman of the allied arts committee, reported on the recommendations of the national committee on the award of honorable mention for fine arts metal and for craftmanship.

Roy Kelley discussed the report of the educational committee, stating it recommended that every effort should be made to stimulate traveling scholarships and that architects should keep in touch with the architectural schools and should encourage the younger men of the profession to join the local chapters as junior members.

A. S. Nibecker, Jr., read the report of the school construction committee.

Myron Hunt talked upon the report of the com-

mittee on registration laws. He also announced that the bill sponsored by the State Association of Architects of California, amending the architects' license law, had passed both houses of the legislature and that it was now before the governor for his signature. Mr. Hunt referred to the work A. M. Edelman had done and is doing for the architects of California and said he deserved the whole-hearted support and praise of every architect in the state.

Edwin Bergstrom spoke on the report of the committee on competitions. He also outlined the ways planned by the national Board of Directors for financing the new office and library building proposed as the national headquarters of the American Institute of Architects in Washington, D. C.

Charles Kyson and A. C. Weatherhead outlined methods of publicity which the architects could use effectively. Mr. Weatherhead stated the University of Southern California had taken over radio station KEJK and proposed using the station for educational programs, the period from 6 to 6:30 each Monday night being reserved for the architectural department. Mr. Weatherhead also announced that certain time over KHJ was being arranged for.

OREGON CHAPTER

One of the most important things undertaken by the Oregon Chapter for some time is the work being done towards the improvement and beautification of Portland's waterfront. The chapter appointed a committee, Joseph Jacobberger, chairman, to study the problem, and to prepare a drawing showing the suggested development. The plan as outlined indicates the new seawall, now almost completed, with a promenade surmounting the wall and a parkway or open strip between the wall and a new, widened Front street. A belt rail line is provided for, which is hoped, will be placed in a tunnel under the parkway.

It is hoped by all those interested that the area to be improved will be carried to Third or Fourth street, if the property owners within this area can form some holding corporation and bond the existing property to carry on the work.

The interest taken by the public and the property owners directly concerned has been very gratifying.

The three Institute members who took in the National convention at Washington, D. C., were Ellis F. Lawrence, Morris H. Whitehouse of Portland, and W. R. B. Willcox of Eugene.

A very interesting exhibition is being held by the Oregon Chapter, consisting of photographs and renderings together with examples of some of the crafts. The architects took a great deal of interest in preparing the exhibits and much favorable comment has been made regarding the quality of work presented. This is the first of exhibitions given as an annual affair by the Oregon Chapter.

On April 30th a hand illuminated parchment, a certificate of merit, was awarded Frederick C. Baker for excellence in craftsmanship and design. Mr. Baker is a manufacturer of lighting fixtures.

Last year a similar award was given Donan Konrad Tuerck for his superb craftsmanship in wrought iron.

SAN FRANCISCO ARCHITECTURAL CLUB

The monthly meeting of the San Francisco Architectural Club was held May 15th, President Harry Langley presiding. After the usual routine business, discussion centered upon the question of raising the dues and the classification of older members whose dues will remain unchanged.

Ted Ruegg told the club of his visit to Mr. McGee, who is in the hospital, suffering from concussion of the brain and bruises, following an accident. He is doing well now and the club voted unanimously to send him some flowers. We hope he will be with us again soon.

After selecting and trying several names for the club bulletin, all of which have been discarded for various reasons, it is now appearing under the name of "Keystone." This name is the choice of Ira Springer. The last attempt to vote on a name resulted in the casting of some seventy-five ballots by thirty-six members present, so we feel Ira was justified in settling the issue.

The recent campaign against delinquents has had gratifying results. The treasurer reports money for dues coming in with unusual promptness.

The question of where to lunch on Thursdays is still undecided. The boys are on the lookout constantly. The main idea is to find a place where a banana fritter is a banana fritter and not filet of sole.

The annual picnic at Saratoga (May 19th) proved a big success. Jack Sly announced some rules for the ball game, the most important being that "ringers" and professionals would be distinctly frowned upon. Arguments with the umpire were under Marquis of Queensbury rules.

J. E. D.

LOS ANGELES ARCHITECTURAL CLUB

The stated April meeting which attracted 111 members and guests, was held on the 16th in the main banquet room of the Chamber of Commerce Building, Los Angeles.

After the reading of the minutes, announcement was made by President Hales of the removal of the club office to Room 205, Architects' building, where larger quarters have been established, with an option on even more room. Next winter it is hoped that many classes can be held, the principal one to prepare men for the state board examination. Considering the increased activity of the club a motion was made and carried to restore the dues to their original figure.

The musical program of the evening followed with some selections by the quartet and a solo by Harry Tisdale, of the Southern California Edison Company.

The chief speaker on the program was Mr. A. P. Hill, Engineer of the Southern California Telephone Company, who talked on "Voice Formation and the Transmission of Sound," demonstrating his subject with intricate electrical equipment. The equipment ranged from several reels of motion pictures showing the formation and production of sounds by the human voice to very elaborate equipment designed to take sound apart and analyze it.

Mr. Hill commenced his lecture with a definition of vibration, as a movement out from and back again to a certain point. An example of the slowest known vibration was given as Donati's Comet which takes 2000 years to complete one vibration. The electron is the opposite extreme. As everything in the universe is in vibration, it was explained that from 16 to 20,000 vibrations a second affect the ear drum, in the form of sound. To fully demonstrate, Mr. Hill used his motion pictures to explain the function of the vocal cords, lungs and throat as sound producers and the activity of the ear as a receiving unit.

To demonstrate the effect on music and the voice when different vibrations, known as frequencies, are cut out, the speaker used his machine with which he was able to cut out the high and low frequencies. The power of mechanical invention to so control sound was remarkable.

On May 4th a Mardi Gras Ball was given by the students of the Architectural School of the University of Southern California, to which all members of the Los Angeles Architectural Club were invited.

Judging by the congratulations received on the second copy of "The Lintel" our publication is meeting with approval among the profession. And its popularity is bound to increase as long as it continues to be "devoted to the interest of architecture in Southern California."

PASADENA ARCHITECTURAL CLUB

The Pasadena Architectural club will soon complete its second year, one of accomplishment and satisfaction. During the past year, under the presidency of Roy S. Parkes, the club has successfully sponsored two life classes per week with a very high percentage of attendance. There have been numerous lectures and talks by prominent men in the arts or allied crafts. About four parties have been held in the Stickney Studio, ranging from Dutch lunches to spaghetti entanglements a la "Italian."

The Club sponsored two sketch competitions which brought out considerable talent among the members, and it likewise encouraged several to sketch weekly during the year; many traveling to other towns and cities to find new subjects. Prizes donated by the two blue printers in Pasadena were given for the most meritorious work.

Many new members were added to the rolls; particularly craftsmen, decorators, and artists—a most encouraging sign of the clubs' importance and prestige.

The most important accomplishment during the year was the securing of the "Stickney Studios" as a home for the Club. It was built as an Art Studio some twenty years ago, and is well fitted for Ateliers, Studios, Exhibitions, etc.

W. J. S.

SEATTLE CHAPTER PERSONALS

Professor W. R. B. Willcox, formerly of Seattle, is now connected with the School of Architecture at the University of Oregon. In addition to successfully meeting his academic responsibilities, Walter Willcox has found time to make some very notable contributions to the architecture of Eugene and has recently been chosen a member of the City Planning Commission.

Harold Sexsmith, another former Washington Chapter member, is continuing the practice of architecture in Hollywood. Kirtland Cutter is at Long Beach, where the distinguished chapter member formerly from Spokane, is pleasantly situated.

ALAMEDA SOCIETY OF ARCHITECTS

A well attended business meeting of the Society was held at the Athens Athletic Club, Oakland. Those present were: Messrs. Warneke, Schirmer, Bangs, Foulkes, Ellinger, Gilkie, Gregg, Shepherd, Allen, Roeth, DeLappe, Corlett, Reimers, Dakin, Miller and Williams.

The meeting was opened by President Corlett, who presided. The minutes of the previous meeting were approved as read.

Mr. Corlett spoke on the Builders Palace Exhibit.

Mr. Bangs spoke on the Civic Center project, and explained the motive and general layout to date. Mr. Corlett also commented on developments to date. Mr. Foulkes commented on the particular placing of buildings, taking into account the present buildings.

Mr. Roeth announced that the Architect's law passed and was signed by the Governor. The committee is now planning the best method of attack.

A directors meeting of the Society was held at Athenian-Nile Club, March 14th.

Mr. Roeth was appointed to look into the law through the state association attorney, after a motion to that effect had been duly made and seconded.

Mr. Crawford of the Industrial Association spoke. He urged the architects to educate owners to pay the regulation Industrial Association wage scale through contractors.

A motion was made by Mr. Donovan and seconded by Mr. Miller that the Society go on record as being in favor of the maintenance of the wage schedule as endorsed and as laid down by the Impartial Wage Board.

NEW SAN FRANCISCO MANAGER

Genfire Steel Company of Youngstown, Ohio, announces that A. A. Fraser, for two years manager of the Dallas branch office of the company, has been transferred to the managership of the San Francisco office. This is a distinct promotion for Mr. Fraser as the San Francisco office is a large source of business in such permanent building products as metal lath, steel joists, steel casement and casement windows and other permanent building products manufactured by the Genfire Steel Company in its plant at Youngstown, Ohio.

NEW MANAGER FOR BERGER COMPANY

A. S. Tiedeman, for the past several years in charge of sales for the Genfire Steel Company on the Pacific Coast, with headquarters in San Francisco, has recently been appointed vice-president and general manager of the Berger Manufacturing Company of California. Mr. Tiedeman is one of the best known building material engineers on the Pacific Coast and his many friends will be pleased to learn of his advancement. He spent twelve years with the Genfire Company, formerly the General Fireproofing Company, and prior to that time, he was in charge of the New York sales for the Corrugated Bar Company of Buffalo. He has had a wide experience in the designing of concrete buildings and the Corrugated Bar Company was one of the first to manufacture steel bars at a time when the concrete industry was in its infancy. Mr. Tiedeman is a graduate of Union University of Schnectady, N. Y. He is a Mason and is president of the Oakland Operatic Society.

In connection with Mr. Tiedeman's appointment as head of the Berger Company in San Francisco, it is announced that in addition to its customary lines of building materials, the company will market a complete line of steel sash and pressed steel, the latter for office doors and partitions.

For many years the Berger Manufacturing Company, which operates under the trade name Berloy has been manufacturing a complete line of steel office furniture and shelving. On March 1st of this year the company purchased the metal furniture division of the Van Dorn Iron Works of Cleveland. The combination of Van Dorn and Berloy assumes as complete a line of high grade store furniture as it is possible to manufacture.

The Berger Manufacturing Company is the selling organization of the Central Alloy Steel Corporation, one of the largest mills devoted to the manufacture of steel sheets in the country.

Berloy products are manufactured from the ore to the completed product under one roof.

Under the new management an engineering service is offered the architect embracing all the products of the company and new handbooks and literature are now available.

UKIAH HOTEL

Work has started on the new addition to the Palace Hotel at Ukiah, California. The architect is N. R. Coulter and L. M. Bruce is the contractor, both of San Francisco.

ELECTRIC HEATING NEEDS "BEFORE HAND" PLANNING

By W. W. Weir

ELECTRICITY is undeniably becoming a real factor in the operation of modern homes and apartment houses. The development of the radio and its various accessories in the last five years has done much to bring about the changed attitude of some of the more skeptical ones toward electrical appliances. The average home today boasts not only of such electrical devices as curling irons, toasters, vacuum cleaners, waffle irons, but will be found well supplied with electric heaters (water and air) electric ranges, radio and what not.

The followign 1929 budget, as outlined by the Pacific Coast Power Companies, will give some idea of

TOWNHOUSE APARTMENTS, LOS ANGELES
Weir Electric Heaters Used Throughout

the additional equipment that the above power companies figure on adding to their lines this year. And let me say here, they generally outsell their estimate:

Electric Ranges	34,000	$5,100,000
Electric Water Heaters	54,000	850,000
Electric Air Heaters	54,000	985,000
Misc. Inc. Lighting, Inc. Heating, Socket Appliance, etc.		17,765,000
Cost of Installation		5,300,000

Thousands of kitchens today are equipped with electric ranges, and apartment houses are rapidly becoming no small outlet for this type of cooking, due to its numerous advantages.

Electric water heating has made good progress and when properly installed, is a very efficient piece of modern equipment. Electric refrigeration is now practically standard equipment in the modern kitchen, especially in apartments.

Heating by electricity has made wonderful progress, especially in the last two years. When properly installed, electric heat has a great many advantages over other types of heating. Cleanliness, simplicity in operation and flexibility make it a most desirable method of heating, whether used for major or auxiliary needs. Most power used for this purpose may be figured on the lowest rate offered by the power companies—from one to two cents per kilowatt hour.

Probably no other domestic electric equipment responds more to "before hand" planning than does electric heating. There is no question but that poorly located heaters fail to operate economically, particularly when installed in cheaply built homes. At least 25% to 40% saving may be had when good heat insulation is used in the construction of homes and apartments. Proper size heaters should always be selected.

Thermostat control, when installed in rooms used most, is not only an additional current saver, but maintains an even and proper temperature, a condition few people realize, in fact, it is surprising how little the general public understands this question of proper temperature.

The cost of electric heater equipment compares favorably with the cost of installing other systems, and in many cases the outlay is less. This especially is true when the electric equipment is given conscientious consideration as part of the preliminary planning of the building, and not as an after thought, or when it is too late to change plans and specifications. There are some very competent engineers on the Pacific Coast who specialize in this class of planning, and happily many architects are taking advantage of this professional advice.

TYPICAL ELECTRIC HEATED APARTMENT IN THE TOWNHOUSE APARTMENTS, LOS ANGELES

One of the outstanding electrically equipped buildings on the Pacific Coast today is the "Townhouse" Apartments in Los Angeles. This structure is in the heart of the better residential district and the owners appear to have overlooked nothing in making it modern. The heating equipment consists of seven hundred and fifteen insert heaters, ranging from 1½ K. W. to 6 K. W.

The bathrooms are equipped with 2 K. W. Weir insert radiant convection heaters, with vitreous enameled cast iron grills. The other rooms have insert heaters equipped with special elements having unexposed wires. The heaters are a conventional design, bone colored, with one piece cast iron grills, finished in white nickel to match the hardware.

Due to the lack of any element radiancy, to show when the heaters are off or on, a Ruby pilot light is installed on each fixture next to the three heat switch. This is only one of the many ways that may be employed to facilitate the economical operation of electric heaters.

"SCREEN CASEMENT" WINDOWS

What is characterized by architects as "the most outstanding improvement in steel casement windows since their inception" was announced recently by the Detroit Steel Products Company. It is called a "Screen Casement" and it answers what has been in the past, one of the greatest objections to swing out casements.

Most casements are made with leaves that swing outward to insure positive weathering against driving storms and this feature necessitates screens on the inside. But heretofore inside screens could not be purchased through the casement makers but had to be bought independently from screen manufacturers and installed by the building contractor entirely seperately from the casements themselves.

Screen installation necessitated various special details. The screen had to be kept back about 2⅛ in. from the window to clear the hardware. It had to have a special screen stop, at head and jambs. Sometimes track or hinges or rollers had to be provided. And, except where special underscreen operators were employed, the screens invariably had to be moved to open or close the casement windows.

The new "Screen Casement" does away with all of these objections.

ARCHITECT TO BUILD HOME

Douglas Dacre Stone, Great Western Power Building, Oakland, is to build a $20,000 English-type residence for himself on Eucalyptus drive, Berkeley.

AN INEXPENSIVE FUEL

Oil fuel, automatically controlled, is the cheapest fuel because it is consumed only when it is needed, says the Oil Heating Institute in a recent study of heating costs. This report is published in pamphlet form under the title, "Does It Pay to Install an Oil Heater?"

The institute points out that oil heat is quickly available at any time during the year. "Warm days discourage the keeping of coal fires. Yet there are many chilly mornings and evenings when heat is needed, not only for comfort, but to safeguard health. For this reason, oil heat is used at least a month longer in fall and spring than coal heat is."

An oil burner, says the institute, utilizes every ounce of fuel. No wasted, half-burned fuel is carted away. No fuel is burned all day simply to provide a little heat for chilly evenings.

In an inquiry recently made in New England, twenty-three owners of oil burners testified that they made a net average saving during the winter of 1925-6 of 21.3 per cent., as compared with the cost of coal during the previous winter.

NOTABLE MERGER

The technical legalities involved in the consolidation of George H. Tay Company and of the departments of metals, plumbing, pipe, valves, fittings and furnace heating merchandise of Holbrook, Merrill & Stetson, have been completed. The deal is one of the largest in the history of the Pacific Coast. Both of these firms are pioneers in their respective lines. Each was founded 79 years ago and has grown up with the coast, in whose progress they both have had a prominent part. Headquarters of the new firm have been established in the office building of the George H. Tay Company. Branches are being maintained in Oakland, Sacramento and Fresno.

This merger is of particular interest to San Franciscans, not only because of its magnitude and the long period of years during which the principals have been identified with the commercial and civic life of the city, but also because it gives San Francisco the largest wholesale plumbing supply and metal house west of Chicago.

PIEDMONT RESIDENCE

Plans have been completed by Miller and Warnecke, architects of Oakland, for a $20,000 French chalet in Wildwood Garden, Piedmont, for Dr. Lillian Shield.

WHAT IS ARCHITECTURE?

In a campaign to show the desirability of retaining an architect on building construction, *The American Architect* recently ran an advertisement in which the question, "What is Architecture?" was answered thus:

"Architecture is putting into buildings certain qualities—logic, strength, and beauty.

"Logic means making the structure convenient — adaptable both to purposes and site. It means a straightforwardness of plans which results in economy.

"Strength means building with good materials. It means honest construction, durability, long life, low depreciation.

"Beauty results from naturalness, from simplicity, from good proportions. It depends upon careful attention to the small details as well as to the larger ones. It is the quality that makes the structure a pleasure to see and to know, and to live or work in through the years.

"These three combined make good architecture. Without either of these qualities, a structure is not architectural. Only an architect can impart architecture to a building."

NO MORE RIVETING NOISES

Hotel, apartment house or hospital extensions which have been held in abeyance for fear of noises attendant upon riveting steel frames, or because of the tap-tap-tap of carpenters' hammers in erecting wooden forms for concrete construction, may now be undertaken with no more annoyance from these sources, according to Professor Frank P. McKibben, consulting engineer of Black Gap, Pennsylvania. Since electric welding of structural steel columns and girders has been perfected, he says, these structures can be built in such a manner as to eliminate the principal source of noise — the riveter.

SEPARATE THEIR INTERESTS

The joint owners of Price Teltz Company, F. E. Teltz and L. H. Price, have divided their interests. Mr. Teltz, continuing the old firm, will handle the refrigerating and warm air heating lines and Mr. Price, under the new name of Price Building Specialties Company, will go on with the building specialties. Both concerns will remain at their present address, 683 Howard street, San Francisco.

Marshall & Stearns Co. Announce a New Improved Murphy Wall Bed Installation

2' 8" Door Conceals a Full Size Double Bed

Architects, builders and the renting public will approve of this *Improved Murphy Installation,* as it requires only a 2' 8" door to conceal a wide bed.

The 2' 8" door is the same size as other doors in the room and conceals the bed perfectly.

Gives Entrance to Closet During Day

Opening the door gives a wide unobstructed entrance to the closet *without moving the bed.* This is a big improvement over our present Murphy installation, where it is necessary to turn the bed into the room when entering the closet.

Closet Accessible When Bed Is Down

With the bed down in the room there is also a convenient entrance to the closet, an important feature.

The mechanism is simple and like our Murphy installation one movement swings the bed into the room.

Now On Display by All Agents

Descriptive Folder Mailed Upon Request.

MARSHALL & STEARNS CO.

Mfgrs. AD-A-ROOM BEDS

Phelan Building · San Francisco · Douglas 0348

411 Nineteenth Street · Oakland · Oakland 1236

MILLION DOLLAR ROOFING PLANT

Industrial engineers familiar with the roofing business, on a recent visit to the Los Angeles Paper Manufacturing Company, told officials their roofing plant is one of the cleanest, best equipped and smoothest running in the business.

Established twenty-eight years ago as a small felt and paper mill, this company has grown steadily until its plant now covers 27½ acres of ground and represents an investment in buildings, equipment and materials, of more than $1,000,000. Improvements and additions made during the past year to speed production and meet a steadily growing demand are estimated to have cost nearly $100,000.

Between 4000 and 5000 tons of baled rags, shipped in from all over the world and costing in excess of $250,000, are kept on hand to supply the machines that make the felt used as a base for asphalt roofing and shingles. The supply of ground slate imported from the East and kept in stock for the surfacing of their roofing products is estimated roughly at $75,000.

The plant operates on the conveyor system, the various materials that go into the completed roofing products traveling through many processes and exacting inspections before they come out to be packed and shipped.

The rolls of roofing are measured, cut and weighed at a rapid rate and each is wrapped, labeled and sealed in uniform style. The shingles are turned out in strips at a trip-hammer speed, then crated securely in small bundles and shot down chutes directly into the waiting freight cars or motor trucks.

PUBLIC WANTS COLOR

The public today demands color. Shrewd merchandisers in many lines are seizing this new sales aid and putting it to work for them.

No longer are gas ranges chaste white or somber black. Look in any show window devoted to the sale of gas ranges and you will see them in pale green, pink, blue, orange, etc. Fountain pens, typewriters, telephones, almost everything you can think of is now sold in every shade in the spectrum. It helps sales and therefore is good business.

In the concrete industry, too, foresighted men have turned to color as a merchandising aid. Concrete block, brick, trimstone, roofing tile, floor tile, and other products are no longer the dull, drab, unattractive, though useful materials they were not so long ago. A thing can be beautiful as well as useful. It must be beautiful if the concrete products industry is to compete with other materials.—*Concrete.*

BETTER KITCHEN PLANNING NEEDED

While unquestionably it is worth while to try to educate the housewife to increase her efficiency, it would be still more effective to educate the architect and builder to an understanding of what is needed in an efficient kitchen for the housewife. In speaking before the National Housing Conference at Philadelphia, Pa., on January 29, Miss Hildegarde Kneeland, of the Bureau of Home Economics, United States Department of Agriculture, stressed this point particularly, after showing that the domestic kitchen still remains "our most important workshop."

"If the workshop is too large, if the equipment is inadequate, if the arrangement of equipment requires constant retracing of steps," she said, "no amount of process charting and organizing of work can offset the waste of time and energy involved. That most of the kitchens now in use reveal all these deficiencies needs no argument.

"The great majority of housewives must take their kitchens as they find them. For the fifty-four per cent who rent, remodeling is usually out of the question. And even for those who own their homes, remodeling is costly and unsatisfactory. If we are to have scientific kitchens we must build them so in the first place.

"The job of educating the architects and builders is a much easier one than that of educating the housewives. Compared with twenty-six million housewives there are only ninety thousand builders and building contractors listed by the 1920 census. And of architects, a mere eighteen thousand."

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912,

Of The Architect and Engineer, published monthly at San Francisco, Calif., for April 1, 1929.

State of California, City and County of San Francisco, ss.:

Before me, a notary public in and for the state and county aforesaid, personally appeared W. J. L. Kierulff, who, having been duly sworn according to law, deposes and says that he is the Business Manager of The Architect and Engineer, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (if daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 411, Postal Laws and Regulations, printed on the reverse of this form, to-wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are:

Publisher, The Architect and Engineer, Inc., 1662 Russ Bldg., San Francisco, Calif.

Editor, F. W. Jones, 1662 Russ Bldg., San Francisco, Calif.

Managing Editor—None.

Business manager, W. J. L. Kierulff, 1662 Russ Bldg., San Francisco, Calif.

2. That the owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding one per cent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a firm, company, or other unincorporated concern, its name and address, as well as those of each individual member, must be given.)

W. J. L. Kierulff, 1662 Russ Bldg., San Francisco, Calif.

F. W. Jones, 1662 Russ Bldg., San Francisco, Calif.

L. B. Penhorwood, 1662 Russ Bldg., San Francisco, Calif.

3. That the known bondholders, mortgagees, and other security holders owning or holding one per cent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.) None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

5. That the average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the six months preceding the date shown above is. (This information is required from daily publications only.)

W. J. L. KIERULFF, President.

Sworn to and subscribed before me this 4th day of April, 1929.

(Seal) MARY D. HUDSON.

(My commission expires Dec. 22, 1928.)

H. C. Baumann
Architect

Thebo, Starr & Anderton, Inc.
Contractors

The Bellevue-Staten

Oakland's Monumental Apartment will be equipped with

GENERAL ELECTRIC Refrigerator

L. H. BENNETT
RIALTO BUILDING, SAN FRANCISCO
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1212 K St., Sacramento
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510 E. Santa Monica Blvd., Santa Monica
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2308 West 7th St., Los Angeles

Estimator's Guide

Giving Cost of Building Materials, Wage Scale, Etc.

Amounts quoted are figuring prices and are made up from average quotations furnished by material houses to three leading contracting firms of San Francisco.

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and southern part of the state. Freight cartage, at least, must be added in figuring country work.

Overtime in wage scale should be credited with time and a half, Sunday and holidays double.

Bond—1½% amount of contract.

Brickwork—
Common, $33 to $35 per 1000 laid.
Face, $100 per 1000 laid.
Brick Steps, using pressed brick, $1.10 lin. ft.
Brick Walls, using pressed brick on edge, 68c sq. ft. (Foundations extra.)
Brick Veneer on frame buildings, 70c sq. ft.
Enamel, $120.00 per 1000 f.o.b. cars.
Common, f.o.b. cars, $14.50 plus cartage.
Face, f.o.b. cars, $50.00 per 1000, carload lots.

HOLLOW TILE FIREPROOFING (f.o.b. cars in carload lots).

3x12x12 in.	$ 96.00 per M
4x12x12 in.	108.00 per M
6x12x12 in.	156.00 per M
8x12x12 in.	240.00 per M

Rebate 10% cash 10 days.

HOLLOW BUILDING TILE (f.o.b. cars in carload lots).

8x12x5½	$100.00
6x12x5½	74.00

Composition Floors — 18c to 30c per sq. ft. In large quantities, 18c per sq. ft. laid.
Rubber Tile—70c per sq. ft.

Terazzo Floors—50c per sq. ft.
Terazzo Steps—$1.50 per lin. ft.
Mosaic Floors—80c per sq. ft.

Concrete Work (material at San Francisco bunkers) — Quotations below 2000 lbs. to the ton.

No. 3 rock, at bunkers	$1.40 per ton
No. 4 rock, at bunkers	1.40 per ton
Eliott pea gravel, at bnkrs.	1.40 per ton
Washed gravel, at bnkrs.	1.40 per ton
Eliott top gravel, at bnkrs.	1.40 per ton
City gravel, at bunkers	1.40 per ton
River sand, at bunkers	1.00 per ton
Delivered bank sand	1.00 cu. yd.

Note—Above prices are subject to discount of 10c per ton on invoices paid on or before the 15th of month, following delivery.

SAND
Del Monte, $1.75 to $3.00 per ton.
Fan Shell Beach (car lots, f.o.b. Lake Majella), $2.75 to $4.00 per ton.
Cement, $2.51 per bbl. in paper sks.
Cement (f.o.b. Job, S.F.), $2.71 per bbl.
Cement (f.o.b. Job, Oak.), $2.71 per bbl.
Rebate of 10 cents bbl. cash in 15 days.
Atlas "White" .....$ 8.50 per bbl.
Forms, Labors average 22.00 per M.
Average cost of concrete in place, exclusive of forms, 28c per cu. ft.
4-inch concrete basement floor.....13c to 14c per sq. ft.
4½-inch concrete basement floor.....14c to 15c per sq. ft.
2-inch rat-proofing....6½c per sq. ft.
Concrete Steps.....$1.26 per lin. ft.

Dampproofing—
Two-coat work, 20c per yard.
Membrane waterproofing—4 layers of saturated felt, $5.00 per square.
Hot coating work, $2.00 per square.

Electric Wiring — $3.00 to $9.00 per outlet for conduit work (including switches).
Knob and tube average $2.25 to $5.00 per outlet, including switches.

Elevators—
Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing an automatic elevator in four-story building, $2700; direct automatic, about $2600.

Excavation—
Sand, 70 cents; clay or shale, $1.25 per yard.
Teams, $10.00 per day.
Trucks, $21 to $27.50 per day.
Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

Fire Escapes—
Ten-foot balcony, with stairs, $70.00 per balcony.

Glass (consult with manufacturers)—
Double strength window glass, 15c per square foot.
Quartz Lite, 50c per square foot.
Plate, 75c per square foot.
Art, $1.00 up per square foot.
Wire (for skylights), 27c per square foot.
Obscure glass, 25c per square foot.
Note—Add extra for setting.

Heating—
Average, $1.80 per sq. ft. of radiation, according to conditions.

Iron—Cost of ornamental iron, cast iron, etc., depends on designs.

Lumber (prices delivered to bldg.site)
Common, $26.00 per M (average).
Common O. P. select, average, $34.00 per M.

1 x 6 No. 3—Form lumber	$21.00 per M
1 x 4 No. 1 flooring	50.00 per M
1 x 4 No. 2 flooring	46.00 per M
1 x 4 No. 3 flooring	38.00 per M
1 x 6 No. 2 and better flooring	45.00 per M
1¼ x 4 and 6 No. 2 flooring	53.00 per M

Slash grain—

1 x 4 No. 2 flooring	38.00 per M
1 x 4 No. 3 flooring	36.00 per M
No. 1 common run to T. & G.	30.00 per M
Lath	6.00 per M

Shingles (add cartage to prices quoted)—

Redwood, No. 1	$ .90 per bdle.
Redwood, No. 2	.75 per bdle.
Red Cedar	.90 per bdle.

Hardwood Flooring (delivered to building)—

13-16x3¼" T & G Maple	$135.00 M ft.		
1 1-16x2¼" T & G Maple	145.50 M ft.		
⅞x3½ sq. edge Maple	132.50 M ft.		
	13-16x2¼" T&G	⅝x2" T&G	5-16x2" Sq. Ed.
Clr. Qtd. Oak	$220.00 M	$160.00 M	$178 M
Sel. Qtd. Oak	150.00 M	122.00 M	131 M
Clr. Pla. Oak	155.00 M	110.00 M	113 M
Sel. Pla. Oak	132.00 M	79.00 M	97 M
Clear Maple	147.00 M	101.00 M	

Laying & Finishing 16c ft. 15c ft. 13c ft.
Wage—Floor layers, $9.00 per day.

Building Paper—

1 ply per 1000 ft. roll	$4.00
2 ply per 1000 ft. roll	6.00
3 ply per 1000 ft. roll	9.25
Sash cord com. No. 7	$ 1.05 per 100 ft.
Sash cord com. No. 8	1.20 per 100 ft.
Sash cord spot No. 7	1.75 per 100 ft.
Sash cord spot No. 8	1.10 per 100 ft.
Sash weights cast iron	57.00 ton

Nails, $3.25 base.
Belgian nails, $3.00 base.

Millwork—
O. P. $90.00 per 1000. R. W., $100.00 per 1000 (delivered).
Double hung box window frames, average, with trim, $7.00 and up, each.
Doors, including trim (single panel, 1¾ in. Ore. pine) $7.50 and up, each.
Doors, including trim (five panel, 1¾-in. Oregon pine) $6.50 each.
Screen doors, $3.50 each.
Patent screen windows, 30c a sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., $7.00 each.
Dining room cases, $8.00 per lineal foot.
Labor—Rough carpentry, warehouse heavy framing (average), $12.00 per M.
For smaller work, average, $25 to $32 per 1000.

Marble—(Not set), add 50c to 65c per ft. for setting.

Alaska	$1.40 sq. ft.
Columbia	1.40 sq. ft.
Golden Vein Yule Colo.	1.70 sq. ft.
Pink Lepanto	1.50 sq. ft.
Italian	1.75 sq. ft.

Tennessee ..... 1.70 sq. ft.
Verde Antique ..... 3.00 sq. ft.

NOTE—Above quotations are for ¾ inch wainscot in large slabs f.o.b. factory. Prices on all other classes of work should be obtained from the manufacturers.

Floor Tile—Set in place.

Verde Antique ..... $2.75 sq. ft.
Tennessee ..... 1.60 sq. ft.
Alaska ..... 1.35 sq. ft.
Columbia ..... 1.45 sq. ft.
Yule Colorado ..... 1.45 sq. ft.
Travertine ..... 1.60 sq. ft.

Painting—

Two-coat work ..... 30c per yard
Three-coat work ..... 40c per yard
Whitewashing ..... 4c per yard
Cold Water Painting ..... 8c per yard
Turpentine, 93c per gal. in cans and 78c per gal. in drums.
Raw Linseed Oil..... 95c gal. in bbls.
Boiled Linseed Oil..... 98c gal. in bbls.

Carter or Dutch Boy White Lead in Oil (in steel kegs)

Per. Lb.
1 ton lots, 100 lbs. net weight 11¾c
500 lb. and less than 1 ton lots 12c
Less than 500 lb. lots..... 12½c

Dutch Boy Dry Red Lead and Litharge (in steel kegs)

1 ton lots, 100 lb. kegs net weight 11¾c
500 lb. and less than 1 ton lots 12c
Less than 500 lb. lots..... 12½c

Red Lead in Oil (in steel kegs)

1 ton lots, 100 lbs. net weight 13¼c
500 lb. and less than 1 ton lots 13½c
Less than 500 lb. lots..... 14c
Note—Accessibility and conditions cause wide variance of costs.

Patent Chimneys—

6-inch..... $1.00 lineal foot
8-inch..... 1.50 lineal foot
10-inch..... 1.85 lineal foot
12-inch..... 2.10 lineal foot

Pipe Casings — 14" long (average), $5.00 each.

Plastering—Interior—

Yard
1 coat, brown mortar only, wood lath..$0.40
2 coats, lime mortar hard finish, wood lath ..... .52
2 coats, hard wall plaster, wood lath..... .55
3 coats, metal lath and plaster 1.00
Keene cement on metal lath 1.25
Ceilings with ¾ hot roll channels metal lath ..... .67
Ceilings with ¾ hot roll channels metal lath plastered..... 1.40
Shingle partition ¾ channel lath 1 side .62
Single partition ¾ channel lath 2 sides 2 inches thick..... 2.20
4-inch double partition ¾ channel lath 2 sides..... 1.30
4-inch double partition ¾ channel lath 2 sides plastered..... 2.45

Plastering—Exterior—

Yard
2 coats cement finish, brick or concrete wall $1.00
2 coats Atlas cement, brick or concrete wall 1.25
3 coats cement finish No. 18 gauge wire mesh 1.75
3 coats Atlas finish No. 18 gauge wire mesh 2.05
Wood lath, $6.00 per 1000.
2.5-lb. metal lath (dipped) ..... .17
2.5-lb. metal lath (galvanized) ..... .20
3.4-lb. metal lath (dipped) ..... .22
3.4-lb. metal lath (galvanized) ..... .27
¾-inch hot roll channels, $46 per ton.
Hardwall plaster, $15.40 ton; $12.95 in paper sacks (rebate 15c sack).
Finish plaster, $16.40 ton; in paper sacks, $13.85 (rebate 10c sack).
Dealer's commission, $1.00 off above quotations.
Hydrate Lime, $19.50 ton.
Lime, f.o.b. warehouse, $2.25 bbl.; cars, $2.15
Lime, bulk (ton 2000 lbs.), $16.00 ton.
Wall Board 5 ply, $43.00 per M.

Composition Stucco—$1.60 to 2.00 per sq. yard (applied).

Plumbing—

From $60.00 per fixture up, according to grade, quantity and runs.

Roofing—

"Standard" tar and gravel, $5.25 per square for 30 squares or over.
Less than 30 squares, $5.50 per sq.
Tile, $19.00 to $35.00 per square.
Redwood Shingles, $11.00 per square in place.
Cedar Shingles, $10.50 sq. in place.
Recoat, with Gravel, $3.00 per sq.

Sheet Metal—

Windows—Metal, $1.85 a sq. foot.
Fire doors (average), including hardware, $2.15 per sq. foot.

Skylights—

Copper, $1.35 sq. ft. (not glazed).
Galvanized iron, 30c sq. ft. (not glazed).

Stone—

Granite, average, $6.00 sq. foot in place.
Sandstone, average Blue, $3.50; Boise, $2.60 sq. ft. in place.
Indiana Limestone, $2.60 per sq. ft. in place.

Store Fronts—

Copper sash bars for store fronts, corner, center and around sides, will average 75c per lineal foot.
Note—Consult with agents.

Steel Structural—$97.50 per ton (erected). This quotation is an average for comparatively small quantities
Light truss work higher; plain beam and column work in large quantities, less.
Cost of steel for average building (erected), $93.00 per ton.

Reinforcing—

Base price for car load lots, $2.75 100 lbs., f.o.b. cars.
Average cost to install, $23 per ton.

Steel Sash—

All makes, from S. F. stock, 20c to 35c per square foot.
All makes, plant shipment, 22c to 35c per square foot.
(Includes mullions and hardware.)

Tile—White glazed, 75c per foot, laid.
White floor, 75c per foot, laid.
Colored floor tile, $1.00 per ft. laid.
Promenade tile, 80c per sq. ft., laid.

1929 WAGE SCHEDULES FOR SAN FRANCISCO BUILDING TRADES

EFFECTIVE APRIL 1

Craft	Journeymen Mechanics
Asbestos workers	$ 8.00
Bricklayers	11.00
Bricklayers' hodcarriers	7.00
Cabinet workers, (shop)	7.50
Cabinet workers, (outside)	9.00
Carpenters	9.00
Cement finishers	9.00
Electric workers	9.00
Electrical fixture bangers	8.00
Elevator constructors	10.00
Elevator helpers	7.00
Engineers, portable and hoisting	9.00
Glass workers	8.50
Hardwood floormen	9.00
Housemovers	8.00
Housesmiths, arch. iron, skilled all branches	9.00
Housesmiths, arch. iron, not skilled all branches	8.00
Housesmiths, reinforced concrete, or rodmen	9.00
Iron workers (bridge & structural) including engineers	11.00
Laborers, building (6-day week)	5.50
Lathers, channel iron	10.00
*Lathers, all other	8.50
Marble setters	10.00
Marble helpers	6.00
Marble cutters and copers	8.00
Marble bed rubbers	7.50
Marble polishers and finishers	7.00
Millmen, planing mill department	7.00
Millmen, sash and door	6.00
Millwrights	8.00
Model makers	10.00
Model casters	9.00
Mosaic and Terrazzo workers	9.00
Mosaic and Terrazzo helpers	6.00
Painters	8.00
Painters, varnishers and polishers (shop)	7.50
Painters, varnishers and polishers (outside)	9.00
Pile drivers and wharf builders	9.00
Pile drivers engineers	10.00
Plasterers	11.00
Plasterers' bodcarriers	7.50
Plumbers	10.00
Roofers, composition	8.00
Roofers, all others	8.00
Sheet metal workers	9.00
Sprinkler fitters	10.00
Steam fitters	10.00
Stair builders	9.00
Stone cutters, soft and granite	8.50
Stone setters, soft and granite	9.00
Stone carvers	8.50
Stone derrickmen	9.00
Tile setters	10.00
Tile helpers	6.00
Auto truck drivers, less than 2500 lbs.	5.50
Auto truck drivers, 2500 to 4500 lbs.	6.00
Auto truck drivers, 4500 to 6500 lbs.	6.50
Auto truck drivers, 6500 lbs. and over	7.00
General teamsters, 1 horse	5.50
General teamsters, 2 horses	6.00
General teamsters, 4 horses	6.50
Plow teamsters, 4 horses	6.50
Scraper teamsters, 2 horses	6.00
Scraper teamsters, 4 horses	6.00

*On wood lath if piece rates are paid they shall be not less than such an amount as will guarantee, on an average day's production of 1600 lath, the day wage set forth.

Eight hours shall constitute a day's work for all Crafts except as otherwise noted.

Plasterer's bodcarriers, bricklayers' bodcarriers, roofers, laborers, and engineers, portable and hoisting, shall start 15 minutes before other workmen, both at morning and noon.

Five and one-half days, consisting of eight hours on Monday to Friday inclusive, and four hours on Saturday forenoon shall constitute a week's work.

Overtime shall be paid as follows: For the first four hours after the first eight hours, time and one-half. All time thereafter shall be paid double time. Saturday afternoon (except laborers), Sundays from 12 midnight Saturday, and Holidays from 12 midnight of the preceding day shall be paid double time. On Saturday afternoon laborers, building, shall be paid straight time.

Where two shifts are worked in any twenty-four hours shift time shall be straight time. Where three shifts are worked, eight hours pay shall be paid for seven hours on the second and third shifts.

All work shall regularly be performed between the hours of 8 A. M. and 5 P. M., provided, that in emergencies or where premises cannot be vacated for work by mechanics until the close of business, men then reporting for work shall work at straight time; but any work performed after midnight shall be paid time and one-half except on Saturday afternoons, Sundays, and holidays, when double time shall be paid.

Recognized holidays to be New Year's Day, Decoration Day, Fourth of July, Labor Day, Admission Day, Thanksgiving Day and Christmas Day.

Men ordered to report for work, for whom no employment is provided, shall be entitled to two hours pay.

Index to Advertisements

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ACOUSTIC CORRECTIONS
Johns-Manville Company, all principal Coast cities.
R. Guastavino Co., represented by Albert B. Mann, Engineer, 417 Crocker Bldg., San Francisco.
"Acousti-Celotex," Western Asbestos Magnesia Co., 25 South Park, San Francisco.
American Hair & Felt Co., 1615 Ditman St., Los Angeles.

AIR COMPRESSORS
Dayton, sold by Simonds Machinery Co., 816 Folsom Street, San Francisco; 520 East 4th Street, Los Angeles.

ACOUSTIC DEADENING
American Hair & Felt Co., 1615 Ditman St., Los Angeles.

ART METAL
Federal Ornamental Iron and Bronze Co., 16th St., and San Bruno Ave., San Francisco.
Michel & Pfeffer Iron Works, 1415 Harrison Street, San Francisco.

ARCHITECTURAL ENCAUSTIC TILE
Mangrum-Holbrook Co., Inc., 1235 Mission Street, San Francisco.

ARCHITECTURAL BRONZE
Elevator Supplies Company, Inc., Hoboken, N. J.; 186 Fifth Street, San Francisco; 1120 S. Hope Street, Los Angeles.
Zouri Drawn Metals Company, Chicago Heights, Illinois, (Zouri Company of California, 1208 Howard St., San Francisco.

ARCHITECTURAL TERRA COTTA
N. Clark & Sons, 116 Natoma Street, San Francisco.
Gladding, McBean & Co., 660 Market St., San Francisco; 621 S. Hope St., Los Angeles; 1500 First Ave. South, Seattle; 454 Everett St., Portland; 15th and Dock Sts., Tacoma, and 22nd and Market Sts., Oakland
W. S. Dickey Clay Mfg. Co., San Francisco and Oakland.

ASBESTOS MATERIALS
Johns-Manville, Inc., of California, 159 Montgomery St., San Francisco. Coast Factory at Pittsburg, Calif.
Western Asbestos Magnesia Company, 25 South Park, San Francisco.
Jones Bros. Asbestos Supply Co., Inc., 500 Second St., San Francisco.

ASPHALT ROOFING
El Rey Products Company, 1633 San Pedro St., Los Angeles; 960 Seventh St., San Francisco; 65 Columbia St., Seattle; 850 E. Taylor St., Portland.
The Paraffine Companies, Inc., San Francisco, Los Angeles, Portland and Seattle.

AUTOMATIC THERMOSTAT CONTROLS
Majestic Electric Appliance Company, 590 Folsom Street, San Francisco.

BEDS—WALL—CONCEALED, ETC.
Marshall & Stearns Co., Phelan Bldg., San Francisco.

BLACKBOARDS
Spinner-Deist Corporation, 555 Mission St., San Francisco.
C. F. Weber & Co., 601 Mission St., San Francisco, Los Angeles and Reno, Nevada.

BOILERS
Kewanee Boiler Co., 635 Mission St., San Francisco.
Kewanee Water Supply System, Simonds Machinery Co., 816 Folsom St., San Francisco.

BONDS FOR CONTRACTORS
Bonding Company of America, Kohl Bldg., San Francisco.
Globe Indemnity Co., 444 California St., San Francisco.
Fidelity & Casualty Co. of New York, Balfour Bldg., San Francisco.
Standard Accident Insurance Company, California Commercial Union Building, San Francisco.

BRASS GOODS, CASTINGS, ETC.
H. Mueller Manufacturing Co., 1072 Howard St., San Francisco.

BRICK—FACE, COMMON, ENAMEL, GLAZED
Gladding, McBean & Co., 660 Market St., San Francisco; 621 S. Hope St., Los Angeles; 1500 First Ave. South, Seattle; 454 Everett St., Portland; 16th and Dock Sts., Tacoma, and 22nd and Market Sts., Oakland.
N. Clark & Sons, 116 Natoma Street, San Francisco.
W. S. Dickey Clay Mfg. Co., San Francisco and Oakland.
Port Costa Brick Works, 6th and Berry Sts., San Francisco.
McNear Brick Company, Monadnock Bldg., San Francisco.
Richmond Pressed Brick Co., Sharon Bldg., San Francisco. Plant at Richmond, Cal.
Cannon & Co., Sacramento; 517 Call Bldg., San Francisco; Builders Exchange Bldg., Oakland.

BRICK AND CEMENT COATING
The Paraffine Companies, Inc., 475 Brannan St., San Francisco.

BUILT-IN FURNITURE
Built-in Fixture Company, 2608 San Pablo Ave., near Dwight Way, Berkeley, and Hoosier Store, Pacific Bldg., San Francisco.

BUILDERS' HARDWARE
"Corbin" hardware, sold by Palace Hardware Company, 581 Market St., San Francisco.
Richards-Wilcox Mfg. Co., Aurora, Ill.; represented by Ewing-Lewis Company, Hunter-Dulin Bldg., San Francisco, and 408 S. Spring Street, Los Angeles.

BUILDING PAPERS
El Rey Products Company, 1633 N. San Pablo Street, Los Angeles; 960 Seventh Street, San Francisco; 65 Columbia Street, Seattle; 850 E. Taylor St., Portland, Ore.
The Paraffine Companies, Inc., San Francisco, Los Angeles, Portland and Seattle.
Pacific Materials Co., 444 Market St., San Francisco.

CEMENT
Atlas White, manufactured by The Atlas Portland Cement Company, 25 Broadway, New York.
Monolith Plastic Waterproof Cement Company, manufactured by Monolith Portland Cement Company, Bartlett Building, Los Angeles; 741 Monadnock Bldg., San Francisco; 1207 Public Service Bldg., Portland.
Pacific Portland Cement Co., Hunter-Dulin Bldg., San Francisco, also Portland, Ore., Los Angeles and San Jose, Calif.
Hydro-plastic cement, manufactured by Southwestern Portland Cement Company, 356 S. Spring St., Los Angeles

CEMENT EXTERIOR WATERPROOF PAINT
Bass-Heuter Paint Company, San Francisco, Los Angeles, Portland, Seattle.
The Paraffine Companies, Inc., San Francisco, Los Angeles, Portland and Seattle.

CEMENT STUCCO
"California," manufactured by California Stucco Products Company, 340 Dore St., San Francisco; 1503 S. Alameda St., Los Angeles; 536 L Street, San Diego; 4523 Shilshole Ave., Seattle, Wash., and 210 Thompson Street, Portland, Oregon.

CEMENT TESTS—CHEMICAL ENGINEERS
Robert W. Hunt Co., 251 Kearny Street, San Francisco.

CLAY PRODUCTS
N. Clark Sons, 116 Natoma Street, San Francisco.
Cannon & Co., Sacramento, Cal.; 517 Call Bldg., San Francisco.
W. S. Dickey Clay Mfg. Co., San Francisco and Oakland.
Gladding, McBean & Co., 660 Market St., San Francisco; 621 S. Hope St., Los Angeles; 1500 First Ave. South, Seattle; 454 Everett St., Portland; 15th and Dock Sts., Tacoma, and 22nd and Market Sts., Oakland.
United Materials Co., Sharon Bldg., San Francisco.

CLOCKS—ELECTRIC TIME
Chicago Watchman's Clocks (all makes dials), General Equipment Co., 650 Howard St., San Francisco.

COMPOSITION ROOFING
El Rey Products Company, 1633 San Pedro St., Los Angeles; 960 Seventh St., San Francisco; 65 Columbia St., Seattle; 850 E. Taylor St., Portland.
The Paraffine Companies, Inc., San Francisco, Los Angeles, Portland and Seattle.

CONCRETE OR CEMENT HARDENER
Gunn, Carle & Co., Inc., 444 Market St., San Francisco.

CONCRETE REINFORCING
Soule Steel Company, Rialto Building, San Francisco.
Gunn, Carle & Co., Inc., 444 Market St., San Francisco.
Clinton Welded Wire Fabric, Wickwire Spencer Steel Corporation, 144 Townsend St., San Francisco.
Pacific Coast Steel Company, Hunter-Dulin Bldg., San Francisco.
National Steel Fabric Company, 274 Brannan St., San Francisco, and 1736 Naud St., Los Angeles.

CONTRACTORS—GENERAL—
Adam-Arras Co., 185 Stevenson St., San Francisco.
F. R. Siegrist Co., 604 Williams Bldg., San Francisco.
Spivock & Spivock, Hobart Building, San Francisco, and 412 Water St., Oakland.
Vogt & Davidson, Inc., 185 Stevenson St., San Francisco, and Builders Exchange, Oakland.
K. E. Parker Company, Inc., 135 South Park, San Francisco.
Barrett & Hilp, 918 Harrison Street, San Francisco.
Lindgren-Swinerton, Inc., Standard Oil Bldg., San Francisco.
R. W. Littlefield, 337 17th Street, Oakland.
Dinwiddie Construction Co., Crocker Bldg., San Francisco.
Clinton Construction Company, 923 Folsom St., San Francisco.
Monson Bros., 475 Sixth St., San Francisco.
McLeran & Co., R., Hearst Bldg., San Francisco.
Chas. D. Vezey & Sons, Builders Exchange Bldg., Oakland.
Jacks & Irvine, Call Bldg., San Francisco.
Industrial Construction Company, 815 Bryant Street, San Francisco.

CORK TILE
Bonded Floors Company, Inc., D. N. & E. Walter & Co., San Francisco, and Broadway Department Store, Los Angeles.
Van Fleet-Freear Company, 557 Howard St., San Francisco, and 420 S. Spring St., Los Angeles.

CRIBBING FOR RETAINING WALLS
Massey Concrete Products Corporation, Colton California and Spokane, Washington.

CRUSHED ROCK
Coast Rock & Gravel Co., Hunter-Dulin Bldg., San Francisco.

DAMP-PROOFING AND WATER-PROOFING
Samuel Cabot Co., Boston; represented in San Francisco by Pacific Materials Co., 444 Market St., San Francisco.
Western Asbestos Magnesia Company, 25 South Park, San Francisco.
The Paraffine Companies, Inc., San Francisco, Los Angeles, Portland and Seattle.
West Coast Kalsomine Co., 710 Rives-Strong Bldg., Los Angeles, and P. O. Box C, West Berkeley.

DEADENING MATERIAL
"Insulite" Western Asbestos Magnesia Co., 25 South Park, San Francisco.
The Paraffine Companies, Inc., San Francisco, Los Angeles. Portland and Seattle.
American Hair & Felt Co., 1615 Ditman St., Los Angeles.

DOOR CLOSERS
Norton door closer, sold by Nissen-Currier Co., 265 Minna St., San Francisco, and 302 Colo Bldg., Los Angeles.

DOOR HANGERS
Richards-Wilcox Mfg. Co., The Ewing-Lewis Co., Hunter-Dulin Bldg., San Francisco.

DOORS—FIREPROOF
Detroit Steel Products Company, 251 Kearny St., San Francisco.
Kinnear Mfg. Co., represented in San Francisco by Pacific Materials Co., 444 Market Street.

DOORS—FREIGHT ELEVATOR
The Peelle Co., Brooklyn, N. Y., represented by Graham & Norton Company, 213 Minna St., San Francisco.

DOORS—HOLLOW METAL
Forderer Cornice Works, Potrero Ave., San Francisco.

DOORS—ROLLING
Kinnear Rolling Steel Doors, sold by Pacific Materials Co., 444 Market St., San Francisco.
Jas. G. Wilson Corporation, 605 Market St., San Francisco.

DRAIN PIPE AND FITTINGS
"Corrosiron" Acid Proof, manufactured by Pacific Foundry Co., Harrison and 18th Sts., San Francisco.

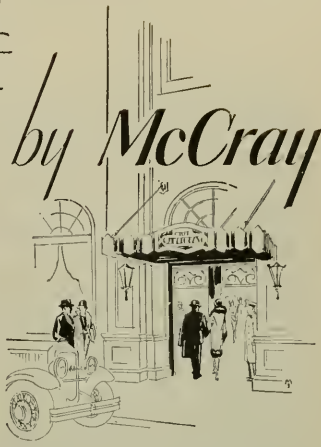
DRAPERIES AND WINDOW SHADES
D. N. & E. Walter & Co., 562 Mission Street, San Francisco.

DRINKING FOUNTAINS
Haws Sanitary Drinking Faucet Co., 1808 Harmon St., Berkeley, and C. F. Weber & Co., San Francisco and Los Angeles.
Standard-Pacific Plumbing Fixtures, 349 Sutter St., San Francisco; 919 W. 7th St., Los Angeles; 1301 5th Ave., Seattle, Wash.; 48 5th St., Portland, Ore.

DUMB WAITERS
Spencer Elevator Company, 166 7th St., San Francisco.
Elevator Supplies Co., Inc., Hoboken, N. J.; San Francisco office, 186 Fifth St.

for
Hotels - Restaurants - Institutions

a New Standard of Refrigerator Service *by McCray*



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NEWEST and finest achievement in McCray history, the No. 332, shown above, is typical of the latest models built especially for hotels, restaurants, cafeterias, clubs and institutions.

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McCRAY REFRIGERATORS

WHAT'S WHAT IN MATERIALS

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ELECTRICAL CONTRACTORS
Butte Electrical Equipment Company, 2014 Folsom St., San Francisco.
Charles A. Langlais, 472 Tehama St., San Francisco.
Ne Page, McKenny Co., 589 Howard St., San Francisco, Oakland, Los Angeles, Seattle.
H. C. Read & Co., 389 Clementina St., San Francisco.

ENGINEERS—CONSULTING, ELECTRICAL, MECHANICAL
Hunter & Hudson, 41 Sutter Street, San Francisco.
Charles T. Phillips Company, Bank of Italy Bldg., San Francisco, and Roberts Bldg., Los Angeles.

ELECTRIC AIR AND WATER HEATERS
Majestic Electric Appliance Company, 590 Folsom Street, San Francisco.
Wesix Heater Company, Rialto Building, San Francisco.
Sandoval Sales Company, 415 Jessie Street, San Francisco.
Weir Electric Appliance Company, 26th and Adeline Streets, Oakland.

ELECTRIC REFRIGERATION
General Electric Refrigerator, L. H. Bennett, Northern California Distributor, 2112 Broadway, Oakland; 318 Stockton Street, San Francisco; George Belsey Company, Los Angeles Distributor, Stores in Los Angeles, Pasadena, Glendale, Hollywood, Santa Monica.
Wayne Home Equipment Company, Fort Wayne, Indiana, represented by Hill and Stoops, 4214 Broadway, Oakland, Calif.

ELECTRICAL SUPPLIES AND EQUIPMENT
The Frink Company, 10th Ave. at 24th St., New York; 77 O'Farrell St., San Francisco
Drendell Electrical & Mfg. Co., 1345 Howard St., San Francisco.
Frank Adam Electric Company, 340 Fremont St., San Francisco, and 1127 Wall Street, Los Angeles; general offices, St. Louis, Mo.
Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pa., and First National Bank Bldg., San Francisco.
Major Equipment Company, 4603 Fullerton Avenue, Chicago, Ill.; represented by Theater Lighting and Equipment Co., 255 Golden Gate Avenue, San Francisco.

ELECTROLIERS
Northern Street Lighting Company, 389 Clementina Street, San Francisco.

ELEVATORS—PASSENGER AND FREIGHT
Otis Elevator Company, Stockton and North Point, San Francisco.
Spencer Elevator Company, 166 Seventh St., San Francisco.
Westinghouse Electric and Manufacturing Company, First National Bank Bldg., San Francisco, general offices and works, Pittsburgh, Pa.

ELEVATOR SIGNALS, DOOR EQUIPMENT
Graham & Norton Company, 213 Minna St., San Francisco.
Elevator Supplies Co., Inc., Hoboken, N. J.; San Francisco office, 186 Fifth St.
The Peelle Co., Brooklyn, N. Y., represented by Graham & Norton Company, 213 Minna St., San Francisco.
Richards-Wilcox Mfg. Co., represented by Ewing-Lewis Company,Hunter-Dulin Bldg., San Francisco; 408 S. Spring Street, Los Angeles.

ENAMELS
Gold Seal Enamel—Bass-Heuter Paint Company, San Francisco, Los Angeles, Portland, Seattle.

EXIT DEVICES
Von Duprin, manufactured by Vonnegut Hardware Company, Indianapolis; sold by D. A. Pancoast Co., 605 Market St., San Francisco.

FENCES—WIRE AND IRON
Standard Fence Company, 432 Bryant St., San Francisco, and 60th and Lowell Sts., Oakland.
Michel & Pfeffer Iron Works, Harrison and Tenth Sts., San Francisco.

FIRE ESCAPES
Michel & Pfeffer Iron Works, 1415 Harrison St., San Francisco.
Palm Iron & Bridge Works, Sacramento.
Western Iron Works, 141 Beale St., San Francisco.

FIRE SPRINKLERS—AUTOMATIC
Fire Protection Engineering Co., 407 Exchange Building, 369 Pine Street, San Francisco.
Grinnell Company of the Pacific, Fifth and Brannan Sts., San Francisco.

FIXTURES—BANK, OFFICE, STORE, ETC.
Home Manufacturing Company, 552 Brannan St., San Francisco.
Mullen Manufacturing Co., 64 Rausch St., San Francisco.
Pacific Manufacturing Company, San Francisco, Los Angeles, Oakland and Santa Clara.
The Fink & Schindler Co., 228 13th St., San Francisco.

FLOORS—CORK, LINOLEUM, ETC.
Bonded Floors Company, Inc., D. N. & E. Walter & Co., San Francisco, and Broadway Department Store, Los Angeles.
The Paraffine Companies, Inc., San Francisco, Los Angeles, Oakland, Portland, Seattle.

FLOORS—REDWOOD BLOCK
Redwood Block Floor Company, Bryant at 18th St., San Francisco.
Pacific Redwood Floor Company, 311 California St., San Francisco, and 420 Grant Bldg., Los Angeles.

FLOOR CLIPS
Bull Dog Floor Clip Co., 77 O'Farrell St., San Francisco, and Hibernian Bldg., Los Angeles.

FLOORS—HARDWOOD
G. H. Brown Hardwood Lumber Company, 47th Avenue and East 12th Street, Oakland.
Inlaid Floor Company, 600 Alameda Street, San Francisco and 4067 Watts Street, Emeryville, Oakland.
"Perfection" Brand Oak Flooring, Arkansas Oak Flooring Co., Pine Bluff, Arkansas.
J. E. Higgins Lumber Company, San Francisco.
White Brothers, 5th and Brannan streets, San Francisco; 500 High Street, Oakland.
Cellized Oak Flooring, Inc., Memphis, Tenn. Represented by Geo. H. Brown Hardwood Company, Oakland.

FREIGHT ELEVATOR DOORS
The Peelle Co., Brooklyn, N. Y., represented by Graham & Norton Company, 213 Minna St., San Francisco.

FURNACES—GAS
Payne Furnace and Supply Co., Los Angeles (see advertisement on page 4 for nearest representative).

FURNITURE—OFFICE, SCHOOL, CHURCH, THEATER
The Fink & Schindler Co., Inc., 218-68 13th St., San Francisco.
Home Mfg. Co., 552 Brannan Street, San Francisco.
Mullen Mfg. Co., 64 Rausch Street, San Francisco.
C. F. Weber & Co., San Francisco, Los Angeles, and Phoenix, Ariz.

FURNITURE (Upholstered in leather)
Lackawanna Leather Company, represented by Gaylord Lee, 208 Fremont St., San Francisco.

GENERAL CONTRACTORS
Spivock & Spivock, Hobart Building, San Francisco.

GLASS
Cobbledick-Kibbe Glass Co., 666 Howard St., San Francisco.

GRAVEL AND SAND
Coast Rock & Gravel Co., Hunter-Dulin Bldg., San Francisco.
Del Monte White Sand, Del Monte Properties Co., Crocker Bldg., San Francisco.

GYMNASIUM EQUIPMENT—LOCKERS, ETC.
Ellery Arms Co., 583 Market St., San Francisco.

HANGERS—RELIANCE—
Graham & Norton Company, 213 Minna Street, San Francisco.

HARDWARE
Vonnegut hardware, sold by D. A. Pancoast Company, 605 Market St., San Francisco.
Palace Hardware Company, 581 Market St., San Francisco.
Richards-Wilcox Mfg. Co., represented by Ewing-Lewis Company, Hunter-Dulin Bldg., San Francisco; 408 S. Spring Street, Los Angeles.

HARDWOOD LUMBER
J. E. Higgins Lumber Co., San Francisco.
G. H. Brown Hardwood Lumber Co., 47th Ave. at E. 12th Street, Oakland.
White Brothers, 5th and Brannan streets, San Francisco; 500 High Street, Oakland.

HEATING—COAL FURNACE
Montague Range & Furnace Company, 376 Sixth St., San Francisco.

HEATING—ELECTRIC
Wesix Electric Air Heaters, manufactured and distributed by Wesix Heater Company, Rialto Building, San Francisco.
Apex Air and Water Electric Heaters, Sandoval Sales Company, 115 Jessie Street, San Francisco.
Majestic Electric Appliance Co. (bathroom heater), 590 Folsom St., San Francisco.
Weir Electric Appliance Company, 26th and Adeline Streets, Oakland.

HEATING—GAS
Payne Furnace and Supply Co., Los Angeles (see advertisement on page 4 for nearest representative).

HEATING—STEAM
Warren Webster & Company, Sharon Bldg., San Francisco, and 306 Crocker St., Los Angeles.

HEATING CONTRACTORS
Alex Coleman, 706 Ellis St., San Francisco.
Gilley-Schmid Company, 198 Otis St., San Francisco.
Hateley & Hateley, Mitau Bldg., Sacramento.
Mangrum & Otter, 827-831 Mission St., San Francisco.
W. H. Picard, 5656 College Ave., Oakland.
Luppen & Hawley, 3126-J St., Sacramento.
William F. Wilson Co., 240 Fourth St., San Francisco.
James A. Nelson, Inc., Howard and Tenth Sts., San Francisco.
Scott Company, 243 Minna St., San Francisco.
Geo. A. Schuster, 4712 Grove St., Oakland.
Geo. N. Zaro, 1311 Harrison St., San Francisco.
Herman Lawson, 465 Tehama Street, San Francisco.

HEATING EQUIPMENT
E. A. Cornely, Inc., 1452 Busb Street, San Francisco.
Illinois Engineering Co., 417 Market St., San Francisco.
Warren Webster & Company, Sharon Bldg., San Francisco, and 306 Crocker St., Los Angeles.
James A. Nelson, Inc., Howard and Tenth Sts., San Francisco.
B. F. Sturtevant Co., Monadnock Bldg., San Francisco; Los Angeles, Portland, Seattle.

HOLLOW BUILDING TILE (Burned Clay)
Cannon & Co., plant at Sacramento; Call Bldg., San Francisco.
N. Clark & Sons, 112-116 Natoma Street, San Francisco; works, West Alameda, California.
Gladding, McBean & Co., 660 Market St., San Francisco; 621 S. Hope St., Los Angeles; 1500 First Ave. South, Seattle; 454 Everett St., Portland; 15th and Dock Sts., Tacoma, and 22nd and Market Sts., Oakland.
W. S. Dickey Clay Mfg. Co., San Francisco and Oakland.

HOSE
The American Rubber Mfg. Co., Park Ave. and Watts St., Oakland, Calif.

HOSE RACKS AND REELS
American Rubber Mfg. Co., San Francisco, Oakland, Los Angeles and Portland, Ore.

HOSPITAL SIGNAL SYSTEMS
Chicago Signal Co., represented by Garnett Young & Co., 390 Fourth St., San Francisco.

INCINERATORS
Kerner Incinerator Company, 450 Clementina Street, San Francisco.
The Goder, sold by M. E. Hammond, Mezzanine, Pacific Bldg., San Francisco.
Kewanee Boiler Co., 635 Mission Street, San Francisco.

INDUSTRIAL LIGHTING EQUIPMENT
Westinghouse Electric and Mfg. Co., East Pittsburgh, Pa., and First National Bank Bldg., San Francisco.

INSPECTIONS AND TESTS
Robert W. Hunt Co., 251 Kearny Street, San Francisco.

INSULATION
"Insulex" manufactured by Pacific Portland Cement Co., Hunter-Dulin Bldg., San Francisco, & 1200 Chapman Bldg., Los Angeles.

Of the whole installation cost, the pipe *isn't* 10%

DRIVE that down as the first peg in our survey of the case, Mr. Bardwell. Even if we specify Byers, the pipe alone represents only one tenth of our complete piping installation. The rest is fittings, freight, cartage, labor, incidentals, and overhead. If the proportion is surprising to you, I can verify it from the detailed estimates.

It does sound a little surprising; but go on with your analysis.

Well, comparing with Byers, if we could get other pipe for nothing, all we should save on our system as a whole would be 10%.

I understand.

Now of course we can't save all that 10%; for even the cheapest pipe costs something. What we have to consider is how much we can save, and whether it's a real saving, in the sense of being a real economy.

Well, how much can we save?

Let's be liberal in our answer. Let's say we can save half the cost of Byers. We can't, quite, for no pipe can be bought for half this estimate; but suppose it could. Then our saving on the whole cost of our pipe system would be half of 10% or 5%. That isn't too much of a premium to pay for length of life in a thing so vital as the pipe, is it?

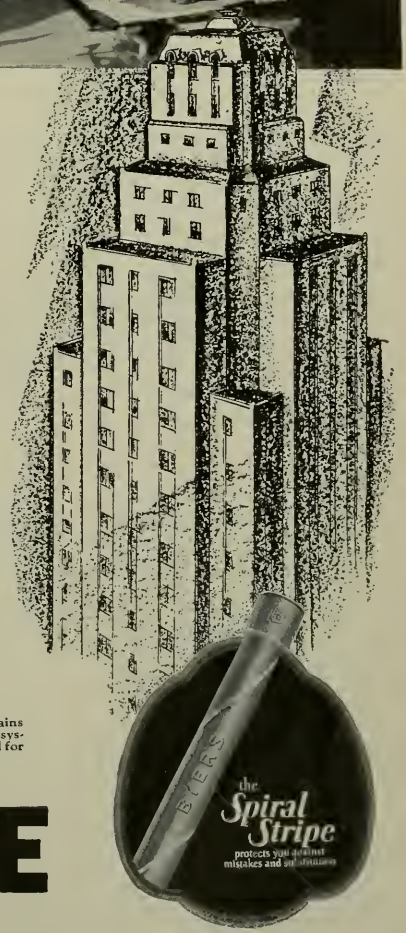
Not if there's any great difference in the service to be expected. How much longer will wrought iron last?

Taking an average, in different cities the country over, about twice as long as ordinary merchant pipe. The difference under our conditions here, engineers advise us, is rather more.

What you're trying to sell me, then, Mr. Ross, is double service for 5% added cost?

About that, yes. We've every reason to think it'll be at least double.

I'm sold already. I've heard a good deal about the excellence of Byers Pipe; but I never saw the extra cost in its true light as an investment in durability. I approve of the specification as it stands—Byers Pipe throughout.



A. M. BYERS COMPANY
Established 1864 Pittsburgh, Pa.
Distributors in all Jobbing Centers

Send for Bulletin No. 38
"The Installation Cost of Pipe" contains analyses of the cost of scores of pipe systems and also of replacements. Send for this valuable book. It's free.

BYERS PIPE
GENUINE WROUGHT IRON

WHAT'S WHAT IN MATERIALS

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Western Asbestos Magnesia Co., 25 South Park, San Francisco.
American Hair and Felt Company, 1615 N. Ditman St., Los Angeles.

KITCHEN EQUIPMENT
General Electric Refrigerator, L. H. Bennett, Rialto Building, San Francisco, and the George Belsey Company, Architects Building, Los Angeles.
Mangrum-Holbrook, Inc., 1235 Mission St., San Francisco.
James A. Nelson, Inc., Howard and Tenth Sts., San Francisco.

LACQUERS
The Paraffine Companies, Inc., San Francisco, Los Angeles, Portland and Seattle.
Bass-Hueter Paint Company, San Francisco and all principal Coast cities.

LATHING MATERIAL—WIRE METAL, ETC.
Genfire Steel Co., Sheldon Bldg., San Francisco; Builders' Exchange, Oakland.
Pacific Materials Co., 444 Market Street, San Francisco.
Truscon Steel Co., Sharon Building, San Francisco.
National Steel Fabric Company, 274 Brannan St., San Francisco, and 1736 Naud St., Los Angeles.
Soule Steel Company, Rialto Building, San Francisco, and Los Angeles.

LAUNDRY MACHINERY AND EQUIPMENT
American Laundry Machinery Company, 921 Howard Street, San Francisco.
Troy Laundry Mach'y Co., Ltd., East Moline, Ill., and 951 Mission St., San Francisco.

LEATHER MATS
"Beatsall" Leather Mat Mfg. Co., 340 Sansome St., San Francisco.

LEATHER PANELS & WALL DECORATORS
Lackawanna Leather Co., represented by Gaylord Lee, 208 Fremont St., San Francisco.

LEATHER UPHOLSTERY
Lackawanna Leather Co., represented by Gaylord Lee, 208 Fremont St., San Francisco.

LIGHTING FIXTURES, OUTLETS, ETC.
The Frink Co., 10th Ave. at 24th St., New York, and 77 O'Farrell St., San Francisco.
Westinghouse Electric and Mfg. Co., First National Bank Bldg., San Francisco; general offices and works, Pittsburgh, Pa.
Major Equipment Company, 4603 Fullerton Avenue, Chicago, Ill.; represented by Theater Lighting and Equipment Co., 255 Golden Gate Avenue, San Francisco.
The Frink Company, 369 Lexington Avenue, New York, and principal Coast cities.

LIME PRODUCTS
United States Lime Products Corp., San Francisco, Los Angeles, Portland, Ore.

LINOLEUM
William Volker & Co., 631 Howard St., San Francisco, and 2301 E. 7th St., Los Angeles.
Bonded Floors Company, Inc., D. N. & E. Walter & Co., San Francisco, and Broadway Department Store, Los Angeles.
The Paraffine Companies, factory in Oakland; office, 475 Brannan Street, San Francisco.
W. & J. Sloane, 216 Sutter Street, San Francisco.
Van Fleet- Freear Company, 657 Howard St., San Francisco, and 420 S. Spring St., Los Angeles.

LUMBER
G. H. Brown Hardwood Company, 1044 47th Ave., Oakland.
Pacific Mfg. Co., San Francisco, Oakland, Los Angeles and Santa Clara.
Santa Fe Lumber Co., 16 California St., San Francisco.
J. E. Higgins Lumber Company, 423 Sixth St., San Francisco.
Sunset Lumber Company, First and Oak Sts., Oakland.
White Brothers, 5th and Brannan Sts., San Francisco, and 500 High St., Oakland.

MAIL CHUTES
Cutler Mail Chute Co., represented by Price Building Specialties Co., 683 Howard St., San Francisco and Continental Building Specialties Co., 1216 Hibernian Bldg., Los Angeles.

MARBLE
American Marble Company, 25 Columbus Square, San Francisco.
Ray Cook Marble Company, foot of Powell St., Oakland.
Joseph Musto Sons-Keenan Co., 535 N. Point St., San Francisco.
Vermont Marble Co., Coast branches, San Francisco, Los Angeles and Tacoma.
Tompkins-Kiel Marble Company, 505 Fifth Ave., New York; also Chicago, Philadelphia and San Francisco.
Clervi Marble and Mosaic Co., 1721 San Bruno Ave., San Francisco.

MASONRY ANCHORS
Steelform Contracting Company, Monadnock Bldg., San Francisco; Edwards & Wildey Bldg., Los Angeles.

METAL COVERED DOORS
Forderer Cornice Works, Potrero Ave., San Francisco.

MILLWORK
The Fink & Schindler Co., Inc., 218-68 13th St., San Francisco.
Pacific Mfg. Co., San Francisco, Los Angeles, Oakland and Santa Clara.
Sunset Lumber Company, First and Oak Streets, Oakland.
Lannom Bros. Mfg. Co., Fifth and Magnolia Sts., Oakland.
Atkinson Mill & Mfg. Co., 2985 Chapman Avenue, Oakland.
Chicago Lumber Company of Washington, 66th and 69th Aves and Spencer Street, Oakland.

MONEL METAL
"Inco" brand, distributed on the Pacific Coast by the Pacific Foundry Company, Harrison and 18th Streets, San Francisco, and Eagle Brass Foundry, Seattle, Wash.

OIL BURNERS
Quiet-May Automatic Oil Burner Company, 959 Natoma St., San Francisco.
Rayfield Automatic Oil Burner, Pacific Coast Distributors, E. A. Cornely, Inc., 1452 Bush St., San Francisco.
S. T. Johnson Company, 1337 Mission St., San Francisco; 940 Arlington St., Oakland.
Vaughn-G. E. Witt Co., 4224-28 Hollis Street, Emeryville, Oakland.
W. S. Ray Mfg. Company, 170 Sutter St., San Francisco, and 2206 San Pablo Ave., Oakland.
Coen Company, 112 Market Street, San Francisco.
Wayne Home Equipment Company, Fort Wayne, Indiana, represented by Hill and Stoops, 4214 Broadway, Oakland, Calif.

ORNAMENTAL IRON AND BRONZE
Braun-Steeple Company, 1088 Howard St., San Francisco.
Federal Ornamental Iron and Bronze Co., 16th St. and San Bruno Ave., San Francisco.
Michel & Pfeffer Iron Works, 1415 Harrison St., San Francisco.
Palm Iron & Bridge Works, Sacramento.

PAINTING, DECORATING, ETC.
The Tormey Co., 681 Geary St., San Francisco.
A. Quandt & Sons, 374 Guerrero Street, San Francisco.

PAINTS, OILS, ETC.
The Paraffine Companies, Inc., San Francisco, Los Angeles, Portland and Seattle.
Bass-Hueter Paint Company, San Francisco, Los Angeles, Portland, Seattle.
General Paint Company, Los Angeles, San Francisco, Oakland, Seattle, Spokane and Portland.

PANEL BOARDS
Drendell Electric & Mfg. Co., 1760 Howard St., San Francisco.
Frank Adam Electric Company, 340 Fremont St., San Francisco, and 1127 Wall Street, Los Angeles; general offices, St. Louis, Mo.
Westinghouse Elec. and Mfg. Co., First National Bank Bldg., San Francisco; general offices and works, Pittsburgh, Pa.

PANELS—HARDWOOD
White Brothers, 5th and Brannan Sts., San Francisco, and 500 High St., Oakland.

PANIC EXIT DEVICES
Von Duprin, manufactured by Vonnegut Hardware Company, Indianapolis; sold by D. A. Pancoast Co., 605 Market Street, San Francisco.

PARTITIONS—MOVABLE OFFICE
Pacific Mfg. Co., Monadnock Building, San Francisco; factory at Santa Clara.

PIPE—WROUGHT IRON
A. M. Byers Co., Pittsburgh, Pa., and Financial Center Bldg., Los Angeles.
Reading Iron Co., Reading, Pa., and Balboa Bldg., San Francisco.

PLASTER
"Empire," manufactured by Pacific Portland Cement Co., Hunter-Dulin Building, San Francisco, Portland, San Jose and Los Angeles.

PLASTER BASE
"Celotex," Western Asbestos Magnesia Co., 25 South Park, San Francisco.

PLASTER REINFORCING
Wickwire-Spencer Steel Company, Inc., 144 Townsend St., San Francisco.
National Steel Fabric Company, 274 Brannan St., San Francisco, and 1736 Naud St., Los Angeles.

PLASTERING CONTRACTORS
A. Knowles, Call Bldg., San Francisco.
MacGruer & Company, 266 Tehama Street, San Francisco, and Pacific Mutual Bldg., Los Angeles.

PLUMBING CONTRACTORS
Alex Coleman, 706 Ellis St., San Francisco.
Gilley-Schmid Company, 198 Otis St., San Francisco.
Hateley & Hateley, 1710 Tenth St., Sacramento.
Herman Lawson, 465 Tehama Street, San Francisco.
Luppen & Hawley, 906 7th St., Sacramento.
Scott Co., Inc., 243 Minna St., San Francisco.
Geo. N. Zaro, 1311 Harrison Street, San Francisco.
Wm. F. Wilson Co., 240 Fourth Street, San Francisco.
Geo. A. Schuster, 4712 Grove St., Oakland.
W. H. Picard, 5656 College Ave., Oakland.

PLUMBING SUPPLY HOUSES
H. Mueller Manufacturing Company, 1072-76 Howard St., San Francisco.
Standard Pacific Fixtures, 349 Sutter St., San Francisco.
Clarence Drucker, manufacturers' representative, 307 Minna St., San Francisco.

PRESSED STEEL
Berger Manufacturing Co., 1120 Mission St., San Francisco.

PRESSURE REGULATORS
Vaughn-G. E. Witt Co., 4224-28 Hollis Street, Emeryville, Oakland.

PUMPING MACHINERY
Simonds Machinery Co., 816 Folsom Street, San Francisco; 520 East 4th Street, Los Angeles.

PUMPS—HAND OR POWER
Ocean Shore Iron Works, 558 Eighth St., San Francisco.
S. F. Bowser & Co., Inc., 425 Brannan St., San Francisco.

REFRIGERATORS
"General Electric," sold by L. H. Bennett, Rialto Bldg., San Francisco; the George Belsey Company, Architects' Building, Los Angeles.
McCray Refrigerator Sales Corp., Kendalville, Illinois; San Francisco office, 765 Mission St.,

REGISTERS
Payne Furnace and Supply Co., Los Angeles (see advertisement on page 4 for nearest representative).

REINFORCING STEEL
Soule Steel Company, Inc., Rialto Bldg., San Francisco, and Los Angeles.
Gunn, Carle & Co., Inc., 444 Market St., San Francisco.
National Steel Fabric Company, 274 Brannan St., San Francisco, and 1736 Naud St., Los Angeles.
Pacific Coast Steel Co., Hunter-Dulin Bldg., San Francisco.
United Alloy Steel Corporation, Canton, Ohio; Western Sales Office, Santa Fe Bldg., San Francisco.
Truscon Steel Company, Sharon Bldg., San Francisco.

ROCK AND GRAVEL
Coast Rock & Gravel Company, General office, Hunter-Dulin Building, 111 Sutter Street, San Francisco.

ROOF MATERIALS
El Rey Products Co., 1633 San Pablo St., Los Angeles; 960 7th St., San Francisco; 65 Columbia St., Seattle; 850 E. Taylor St., Portland.
Kraftile Company, office and factory at Niles; 55 New Montgomery Street, San Francisco.
"Melthoid" and "Ruberoid," also "Pabco"

CAMLIN HOTEL, SEATTLE, WASHINGTON

Western Painting & Decorating Co.
Interior Decorators

Carl Linde
Architect

Another representative building on which B-H Flat Coat Wall Paint has been used

BASS-HUETER PAINT COMPANY

Main Office and Factory, San Francisco, Calif.

Northern Division
Seattle

Central Division
San Francisco

Southern Division
Los Angeles

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10 and 20 year roofs, manufactured by the Paraffine Companies, Inc., San Francisco.
Gladding, McBean & Co., 660 Market St., San Francisco; 621 S. Hope St., Los Angeles; 1500 First Ave. South, Seattle; 454 Everett St., Portland; 15th and Dock Sts., Tacoma, and 22nd and Market Sts., Oakland.
N. Clark & Sons, 112-116 Natoma Street, San Francisco; works, West Alameda, California.
W. S. Dickey Clay Mfg. Co., 604 Mission St., San Francisco.
Jones Brothers Asbestos Supply Co., 500 Second St., San Francisco.
Johns-Manville Corporation of California, 159 New Montgomery St., San Francisco.
United Materials Co., Sharon Building, San Francisco.
Western Asbestos Magnesia Company, 25 South Park, San Francisco.
Los Angeles Paper Mfg. Co., 1633 North San Pablo St., Los Angeles.

RUGS AND CARPETS
W. & J. Sloane, 216 Sutter St., San Francisco.

SAFETY TREADS
Pacific Materials Co., 444 Market St., San Francisco.
Price-Teltz Company, 683 Howard St., San Francisco.

SASH CHAINS
American Chain Company, Inc., Bridgeport, Conn., and 425 Second St., San Francisco.
The Smith & Egge Mfg. Co., P. O. Box 1040, Bridgeport, Conn.; 506 American Bank Bldg., Los Angeles.

SCAFFOLDING FOR CONTRACTORS
Steelform Contracting Company, Monadnock Bldg., San Francisco; Edwards & Wildey Bldg., Los Angeles.

SEATING—SCHOOL, THEATER, CHURCH
Home Manufacturing Company, Inc., 552 Brannan St., San Francisco.
C. P. Weber & Co., San Francisco, Los Angeles, Phoenix, Ariz.; Reno, Nevada.

SELF-RELEASING FIRE EXIT DEVICES
Von Duprin, manufactured by Vonnegut Hardware Company, Indianapolis; sold by D. A. Pancoast Co., 605 Market St., San Francisco.

SHADES
William Volker & Co., 631 Howard Street, San Francisco; 2301 East 7th Street, Los Angeles.

SHEATHING AND SOUND DEADENING
Western Asbestos Magnesia Co., 25 South Park, San Francisco.

SHEET METAL WORKS
Forderer Cornice Works, Potrero Ave., San Francisco.

SHOW CASES
Home Manufacturing Company, Inc., 552 Brannan St., San Francisco.
Mullen Manufacturing Company, 64 Rausch St., San Francisco.

SOUND ABSORBING TREATMENT
Johns-Manville Corporation, 159 New Montgomery St., San Francisco.

SIGNALING & PROTECTIVE SYSTEMS
Garnett, Young & Co., 390 Fourth St., San Francisco.

STEEL FABRIC
National Steel Fabric Co., 274 Brannan St., San Francisco, and 1736 Naud St., Los Angeles.
Wickwire - Spencer Steel Corporation, 144 Townsend St., San Francisco.
Soule Steel Company, Rialto Bldg., San Francisco, and Los Angeles.

STEEL FORMS
Steelform Contracting Company, Monadnock Bldg., San Francisco; Edwards & Wildey Bldg., Los Angeles.

STEEL TANKS
Ocean Shore Iron Works, 55 Eighth St., San Francisco.

STEEL LUMBER
Genfire Steel Co., Sheldon Bldg., San Francisco; Builders' Exchange, Oakland.

STEEL MOULDINGS
Braun-Steeple Company, 1088 Howard St., San Francisco.

STEEL SASH
Bayley-Springfield solid steel sash, sold by Pacific Materials Co., 444 Market St., San Francisco.
"Fenestra" Solid Steel Sash, manufactured by Detroit Steel Products Co., factory sales office, 417 Market St., San Francisco.
Berger Manufacturing Co., 1120 Mission St., San Francisco.
Michel & Pfeffer Iron Works, 1415 Harrison St., San Francisco.
Truscon Steel Company, 74 New Montgomery St., San Francisco.

STEEL SASH AND DOORS
W. C. Lea, 653 South Clarence St., Los Angeles.

STEEL—STRUCTURAL
Golden Gate Iron Works, 1541 Howard St., San Francisco.
Judson Pacific Company, C. F. Weber Bldg., Mission and Second Sts., San Francisco; shops, San Francisco and Oakland.
McClintic - Marshall Company, 621 Florida Street, San Francisco.
Herrick Iron Works, 18th and Campbell Sts., Oakland.
Pacific Coast Eng. Co., foot 14th St., Oakland
Pacific Coast Steel Co., Hunter-Dulin Bldg., San Francisco.
Palm Iron & Bridge Works, Sacramento.
Schrader Iron Works, Inc., 1247 Harrison St., San Francisco.
Western Iron Works, 141 Beale Street, San Francisco.

STONE
Indiana Limestone Company, Tribune Tower, Chicago, Ill., and Crocker First National Bank Bldg., San Francisco.

STORE FRONTS
Zouri Drawn Metals Company, Chicago Heights, Illinois. (Zouri Company of California 1208 Howard St., San Francisco.)

STORE FURNITURE
Berger Manufacturing Co., 1120 Mission St., San Francisco.

STREET LIGHTING EQUIPMENT
Westinghouse Electric and Mfg. Co., East Pittsburgh, Pa., and First National Bank Bldg., San Francisco.

STUCCO—COMPOSITION
"California," manufactured by California Stucco Products Company, 340 Dore St., San Francisco; 1503 S. Alameda St., Los Angeles; 536 L Street, San Diego; 4523 Shilshole Ave., Seattle, Wash., and 210 Thompson Street, Portland, Oregon.

SWITCHES AND SWITCHBOARDS
Drendell Electrical & Mfg. Co., 1345 Howard St., San Francisco.
Westinghouse Elec. & Mfg. Co., First Nat. Bank Bldg., San Francisco; general offices and Works, Pittsburgh, Pa.

TELEPHONES—AUTOMATIC, PRIVATE
Automatic Electric Inc., Chicago, Ill.; 1112 Pacific Finance Bldg., Los Angeles.

THERMOSTATS FOR HEAT REGULATION
Johnson Service, Milwaukee, Wis.; Rialto Building, San Francisco.

TELECHRON CLOCKS
F. A. Thomas Co., 47 2nd St., San Francisco.

TERRA COTTA
N. Clark & Sons, 116 Natoma Street, San Francisco.
National Terra Cotta Society, 230 Park Avenue, New York, N. Y.

TILE—RUBBER, CLAY, CORK ETC.
Bonded Floors Company, Inc., D. N. & E. Walter & Co., San Francisco, and Broadway Department Store, Los Angeles.
N. Clark & Sons, 112-116 Natoma Street, San Francisco; works West Alameda, Cal.
Gladding, McBean & Co., 660 Market St., San Francisco; 621 S. Hope St., Los Angeles; 1500 First Ave. South, Seattle; 454 Everett St., Portland; 15th and Dock Sts., Tacoma, and 22nd and Market Sts., Oakland.
Kraftile Company, factory at Niles; 55 New Montgomery Street, San Francisco.
Mangrum-Holbrook, Inc., 1235 Mission St., San Francisco.
United States Rubber Co., 300 Second St., San Francisco, and 923 Los Angeles St., Los Angeles, Calif.

UNDERFLOOR DUCT SYSTEM
Johns-Manville Corporation, 159 New Montgomery St., San Francisco.

VALVES—PIPES AND FITTINGS
Clarence Drucker, Manufacturers' Agent, 307 Minna Street, San Francisco.
Grinnell Co., Fifth and Brannan Sts., San Francisco.
Mueller Company, 1072 Howard Street, San Francisco.
Sloan Valve Company, Chicago; E. C. Whalen, 954 Western Pacific Bldg., Los Angeles; W. J. Driscoll, 482 Monadnock Bldg., San Francisco; E. C. Fallein, U. S. National Bank Bldg., Denver; S. D. Cochran, L. C. Smith Bldg., Seattle, Wash.

VARNISHES
Bass-Hueter Paint Company, San Francisco, Los Angeles, Portland, Seattle.
The Paraffine Companies, Inc., San Francisco, Los Angeles, Portland and Seattle.
Hill, Hubbell & Co., Los Angeles, Oakland, Portland, Seattle and 160 Fremont St., San Francisco.
General Paint Company, Los Angeles, San Francisco, Oakland, Seattle, Spokane and Portland.

VENETIAN BLINDS
C. F. Weber & Company, 601 Mission St., San Francisco.

VENTILATING EQUIPMENT
B. F. Sturtevant Co., Monadnock Bldg., San Francisco; Los Angeles, Portland and Seattle.

VENTILATORS
"The Panelouvre," sold by M. E. Hammond, Pacific Bldg., San Francisco.

VITREOUS CHINAWARE
Standard - Pacific Plumbing Fixtures, 349 Sutter St., San Francisco; 919 W. Seventh St., Los Angeles; 1301 Fifth Ave., Seattle Wash.; 48 Fifth St., Portland, Ore.

WATERPROOF CEMENT
Victor Hydro-plastic waterproof cement, manufactured by Southwestern Portland Cement Co., 356 S. Spring St., Los Angeles.

WALL BEDS, SEATS, ETC. (See Beds).

WIRING SYSTEM
General Electric Company, San Francisco and all principal Coast cities.

WATER COOLERS
General Electric Refrigerator, L. H. Bennett, Rialto Building, San Francisco, and the George Belsey Company, Architects Building, Los Angeles.

WATER HEATERS
Apex Electric Hot Water Heaters, distributed by Sandoval Sales Co., 115 Jessie St., San Francisco.
Pittsburgh Water Heater Co. (gas), 478 Sutter St., San Francisco.
Ruud Heater Co. (gas), 246 Mason St., San Francisco.
Wesix Heater Company, Rialto Building, San Francisco.
Hoyt-Wood Mfg. Co., 1277 Mission Street, San Francisco; 4401 E. 10th Street; 2146 E. 25th Street, Los Angeles.

WATERPROOFING
Johns-Manville Corporation, 159 New Montgomery St., San Francisco.
The Paraffine Companies, Inc., San Francisco, Los Angeles, Oakland, Portland, Seattle.

WATER SOFTENERS AND FILTERS
The Permutit Company, 440 Fourth Ave., New York City, and Balboa Bldg., San Francisco.

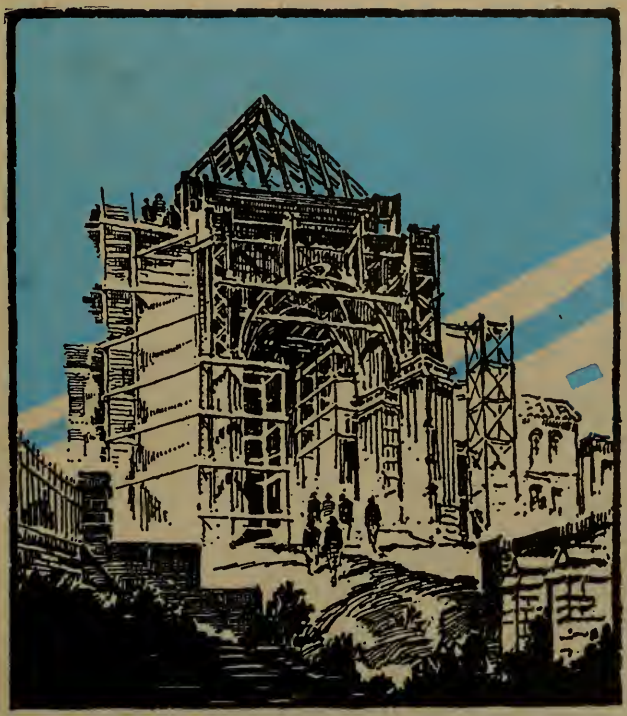
WATER SUPPLY SYSTEMS
Kewanee Water Supply System—Simonds Machinery Co., agents, 816 Folsom St., San Francisco; 520 East Fourth Street, Los Angeles.

WINDOW SHADES
William Volker & Co., 631 Howard Street, San Francisco; 2301 East 7th Street, Los Angeles.
W. & J. Sloane, 216 Sutter St., San Francisco.
D. N. & E. Walter & Co., 562 Mission St., San Francisco.

WINDOWS—STEEL, REVERSIBLE, ETC.
Crittall Casement Window Company, Detroit, Mich. Badt-Falk & Co., 74 Montgomery Street, San Francisco. F. T. Crowe & Co., 216 Walker Bldg., Seattle. R. H. Hoskins, 510 Hyde Bldg., Spokane. McCraken-Ripley Co., 61 Albina Avenue, Portland. F. T. Crowe & Co., 1177 Dock Street, Tacoma, Wash. Crittall Casement Window Co., 504 Union Insurance Bldg., Los Angeles.
Hauser Window Co., 1362 Harrison St., San Francisco.
Detroit Steel Products Co., Detroit, Mich.; factory branch, 417 Market St., San Francisco.
W. C. Lea, 653 South Clarence St., Los Angeles.

WIRING SYSTEM
Westinghouse Electric and Manufacturing Company, First National Bank Bldg., San Francisco; general offices and works, Pittsburgh, Pa.

The ARCHITECT AND ENGINEER



JUNE
1929

Wasco Grammar School. Architect for first unit, Ernest J. Kump. Entrance and additions designed by Symmes and Cullimore, Bakersfield. G. A. Graham, General Contractor. Lowell Strong, Plasterer.

Schools That Safeguard Health

WELL planned and cheerful appearing school buildings which dot the West are among the first objects that strike the eastern visitor favorably. They are a tribute to the specialized study and careful designing of a number of western architects.

In the construction of a number of these school buildings such as the Wasco Primary building, the walls have been poured of Monolith Plastic Waterproof Portland Cement, thus insuring strong, waterproof structures—buildings that help protect the health of children by shutting out any possibility of dampness.

We shall be pleased to furnish information on the use of Monolith in school buildings upon request.

6-1

Monolith Portland Cement Co.

SAN FRANCISCO, 741 Monadnock Bldg. — LOS ANGELES, 215 W. 7th St. — PORTLAND, 1306 Public Service Bldg.

Monolith Portland Midwest Co.

650 17th Street, Denver, Colorado

MANUFACTURED FROM BASIC PATENTS

MONOLITH

PORTLAND CEMENT

Who's Who in this Issue

MORGAN, WALLS & CLEMENTS, some of whose minor work is illustrated in this number, is one of the oldest architectural firms on the Pacific Coast. The firm was established more than sixty years ago and although its founders are no longer identified with the present organization, the original ideals and business principals, together with the able guidance of Octavius W. Morgan, Jr., and Stiles O. Clements, are largely responsible for the continued success and unusual activity of the firm.

Always prominent in civic and business circles this organization has been responsible for the architectural development of an impressive list of important structures in downtown Los Angeles, and throughout Southern California examples of its work may be identified.

During recent years merit in design and execution has been recognized by the awards of the American Institute of Architects which has presented certificates of honor for the Bank of Italy Building, the Crescent Creamery Building, the Spencer Thorpe Building and the Hollywood Storage Warehouse. This latter building has also received a silver medal for excellence of design and execution from the Pan American Congress of Architects, meeting in Buenos Aires.

The shop buildings illustrated in this number are chosen from a large number which this firm has designed. A more extended presentation of their work will be shown in a later issue of this magazine.

HENRY CARLTON NEWTON and **ROBERT DENNIS MURRAY,** whose prize winning house is illustrated in this number, attended the Los Angeles Polytechnic High School where they started their architectural careers together. Mr. Newton completed an engineering course at the University of Southern California and later instructed in engineering at U. C. L. A. He studied architecture at the Beaux Arts Atelier of the Los Angeles Architectural Club, and for a time was in charge of the drafting and engineering department of the General Petroleum Corporation. He has taken a lively interest in civic work and is a member of the Junior Chamber of Commerce, American Institute of Architects, Jonathan Club, various service clubs and country clubs.

Mr. Murray completed an architectural course at the University of Pennsylvania, worked in the offices of Mellor and Meigs in Philadelphia, McKim, Mead and White, Tracey and Swartwout's offices in New York City, Harold McDowell, noted auditorium specialist in New York, and Reginald D. Johnson's office in Pasadena.

He was a member of Atelier Corbett, New York City, where he also studied water color work under the late Birch Burdette Long and architecture under Harvey Corbett, one of the leading architects and instructors of design in the United States. In Los Angeles he studied art under Harold Miles.

He served during the Mexican campaign in the well known "Machine Gun Troop, Squadron A," New York Cavalry, and as a Lieutenant of the 313th Cavalry during the World War. He is a member of the Army and Navy Club of New York, also Los Angeles, Squadron A Club and S. O. L. Club, New York City, American Institute of Architects, etc., and Delta Psi Fraternity, University of Pennsylvania.

BIRGE N. CLARK, architect of Palo Alto, whose Spanish treatment of the modern shop building has occasioned much favorable comment, is a native of San Francisco, a graduate of Stanford University and the School of Architecture at Columbia University. Mr. Clark rendered distinctive service as a captain in the air service during the World War. Returning from abroad, Mr. Clark worked for a while with Clinton and Russell and Ralph Adams Cram, both well known architectural firms in New York City. With his father, Professor A. B. Clark of Stanford University, he designed the Herbert Hoover residence in Palo Alto. One of his recent houses of note is the Eleanor Glenn residence in Santa Clara County. Mr. Clark is a member of the Northern California Chapter, A. I. A.

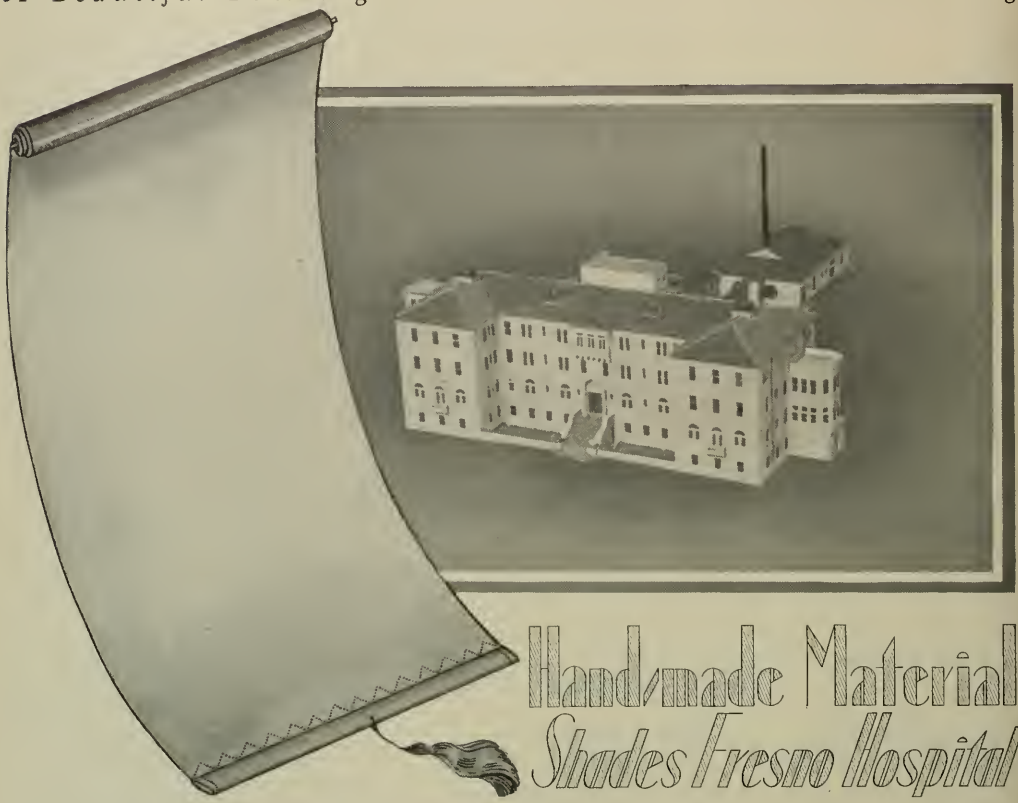
HAROLD O. SEXSMITH, of Sexsmith & Wade, architect and engineer, is a native of Pennsylvania, although his early days were spent in Indiana. He attended Armour Institute of Technology, Chicago, and was a special student in engineering in the University of Washington, Seattle, 1914, '15. He acted as instructor in architecture in the University of Washington in 1914 to 1918, 1920-1923. He enlisted in the U. S. Army as Master Hospital Sergeant in April, 1918, and spent nine months overseas with expeditionary forces in Italy, being commissioned Captain in the Army Ambulance service before embarking for overseas duty. He now holds Captain's commission in Reserves. Mr. Sexsmith was formerly secretary of Washington State Chapter, A. I. A., and later president of the Los Angeles Architectural Club. He has been practicing architecture in Los Angeles under the firm name of Sexsmith & Wade since July, 1927.

ROBERT H. ORR, whose remarkable color charts appear in this issue, received his early training in the office of W. H. Weeks, architect of San Francisco. Mr. Orr afterward took a special course in architecture at the University of Illinois and entered architectural practice in 1908. His work has been mostly institutional buildings, of which many are churches, scattered throughout California, Oregon, Washington and Arizona. The most notable of this group is the Wilshire Boulevard Christian Church, Los Angeles. Other work includes the Hollywood Hospital, California Christian College, California Christian Home and a part of the Pomona College group. A hobby with Mr. Orr is collecting rare architectural books and architectural magazines of which he has a considerable library. He has contributed several short articles to current magazines on architecture and kindred subjects. He is a member of the American Institute of Architects and the California State Association of Architects.

ELMER GREY, F. A. I. A., architect of the Pasadena Community Playhouse, pictured on other pages, has recently resumed practice in Los Angeles after an absence of about four years, due to illness. Mr. Grey's autobiography in detail appeared in this department in April.

MARC N. GOODNOW, who writes on the modern trend in shop buildings in this issue, was formerly editor of The California Home Owner, and is known by the architectural profession in Southern California as a writer well informed on building matters. Mr. Goodnow is at present developing a department of field activities in journalism at the University of Southern California.

A Beautiful Building Gains Charm From Correct Shading



Hand-made Material
Shades Fresno Hospital

ARCHITECT:
ALFRED I. COFFEY
San Francisco, Calif.

SHADE CONTRACTOR:
RADIN & KAMP
Fresno, Calif.

PROJECT:
ST. AGNES HOSPITAL
Fresno, Calif.

INSTALLATION:
Cambro Duplex and Shadowproof Shades

BECAUSE proper diffusion and tempering of light in a sick-room are details that greatly assist the patient to a speedy convalescence, Alfred I. Coffey, Architect of the St. Agnes Hospital of Fresno, felt that the selection of shades to equip this building was of sufficient importance to warrant his personal interest.

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This service of selecting the proper shading rendered Mr. Coffey is but one of the many helps that the Volker Advisory Department is qualified to offer architects. Among other problems this Department solves for the Architect is the increasingly recurrent one of "How to Equip Steel Sash with Window Shades Without Marring the Appearance of the Walls." In YOUR next difficulty, ask the Volker Advisory Department to help you—Expert Service will be given at no obligation whatever.

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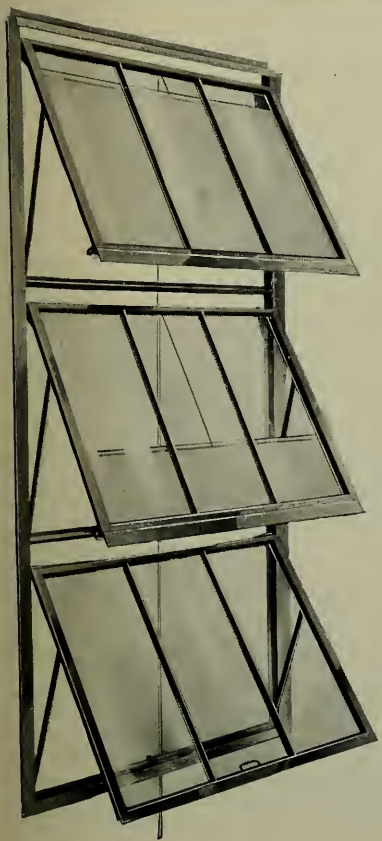

All three sash open. Note individual shades on each sash acting as awnings when fully drawn.

Upper two sash open — bottom sash closed.

Bottom sash open — upper sash closed.

All three sash closed and weathertight.

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The ARCHITECT AND ENGINEER

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INTERIOR, STORE OF MULLEN AND BLUETT, PASADENA

MORGAN, WALLS AND CLEMENTS, ARCHITECTS

The ARCHITECT AND ENGINEER

VOLUME XCVII JUNE, 1929 NUMBER THREE

ARCHITECTURE for the MERCHANT

Some Recent California Shop Buildings

By Marc N. Goodnow

EVIDENCES of a new service which architecture is rendering for American business are rapidly becoming apparent. On every hand lately have grown up structures of various types which, in beauty and freshness of design, no less than in efficiency and appropriateness of planning, are lending their expressive qualities of art and decoration to the success of merchandisers, particularly in the small store and specialty shop field.

Notable trends in the style functions of merchandise have had their direct influence on innumerable buildings, planned and executed for the display and sale of almost every known commodity. A keener appreciation of correct atmosphere as a selling factor has, in reality, woven new patterns in brick and mortar, stucco and art stone, adapted to needs that have long been felt but never well satisfied until recently.

Certain aesthetic elements, with which the architect is familiar, have given impetus to a movement in retail trade that promises to regenerate whole communities, from the physical aspect, and at the same time develop for the architect and builder new fields of self-expression and profit. Fitness and harmony between the goods that are sold and the buildings that house the goods are better known today for their commercial value than ever before. The atmospheric note struck by the exterior design and the interior decoration and embellishment of the architecturally correct store or shop building is now being recognized for its worth in many directions.

Not only is such a building beautiful in its own right, but it has the virtues of being easily and pleasantly remembered, of increasing the value of the site upon which it is built, of raising the tone of the business transacted within it and of producing for the owner a higher rental, which the merchant is willing enough to pay for the sake of the advantages that accrue to him in such a location.

For many years "Good architecture pays" has been a rather glib and sometimes meaningless phrase. But with the new developments in distribution and merchandising, the trend toward decentralization of shopping activities and the rapid upbuilding of outlying community centers, the ability of architecture to attract and hold trade by surrounding products with an air that harmonizes with the nature and

service of these products—or that forms a thoroughly appropriate setting for their display—has been forced into recognition.

Today there is a new acceptance of architecture as it relates to commercial structures, and that acceptance, as has been said, is particularly noticeable in the small store and specialty shop field. To a large extent the retail business of most cities has either broken or started to break away from the congested downtown districts and to set itself up on less crowded, more accessible streets, sometimes newly zoned, or at corners on the outer rim of congestion where parking facilities are possible and where a new type of personal service awaits the buyer.

The movement began on the Pacific Coast, at least, with the chain store. Then branch banking followed. These two establishments formed a nucleus for new shopping centers which were very soon entered by competing stores, banks and specialty shops. Since then distribution has all but broken its tether in its effort to get closer to buyers of merchandise. Even a notable out-swinging activity is developing among the prominent department stores whose owners have already purchased sites in outlying districts of some of the larger cities with the view of erecting branches. Three stores in Los Angeles have made such a move, and many smaller stores and shops are following suit.

VERNON GOODWIN BUILDING, LOS ANGELES
Morgan, Walls and Clements, Architects

In this situation we find architecture working hand in hand with the newer trend; in some instances, indeed, it has led the way. A striking example of its ability

to create new values for both owner and merchant may be found on West Seventh street, Los Angeles. There one attractively designed specialty shop set the pace for an entire district; similar buildings sprang up rapidly to transform the whole appearance of the street fronting Westlake Park and to increase rental values and enhance

INTERIOR, PREMIER CATERING COMPANY, LOS ANGELES
Morgan, Walls and Clements, Architects

the worth of merchandise. For it was discovered in many instances that the more artistic building, with its appropriately planned and decorated interior, attracted a better class of trade that was perfectly able and willing to pay better prices for better goods. Very tangible and profitable returns resulted for owner, builder and merchant.

Within the past two years this instance has been multiplied many times in this one Pacific Coast city, marking an almost unbelievable progress in small store, shop and studio architecture. Over much of its length Wilshire Boulevard, bisecting the western part of the city from the downtown section to the ocean, has been built up not only with community centers at important street intersections, but with a score or more of carefully planned, artistically designed structures housing many of the highest class shops and stores to be found in the west.

Both the architect and the builder have —or should have—an interest in this rapidly developing phase of business; not only because it provides a source of new business, but because it makes certain specific demands founded upon new attitudes toward such factors as business architec-

ture and interior store planning and decoration. The merchant has discovered that his store, its arrangement, lighting, ventilation, its artistic atmosphere and its ability to display his merchandise, has a most important bearing upon the sale of goods.

Not so long ago he had small thought for anything but a room of boxlike proportions, with rows of shelves or cupboards along the side walls and a display window enclosed, perhaps, by paneled wood. There were no skylights and only a meagre amount of interior illumination.

Then came the modern demand for beauty, atmosphere, style. The merchant discovered that his customers wanted beauty in the environment of goods which they purchased, as well as in the house they lived in, the furniture they used, the clothes they wore. Buyers demanded that certain aesthetic sensibilities be gratified. In other words, it was found that there is a subtle selling force in beauty.

Today, the automobile is sold in a salesroom worthy of the name of "salon;" the commonest type of household goods are offered for sale in a setting perhaps as rich and complete as the home itself; the entire array of manufactured products, clothed in the modern guise, have taken on desirable qualities by reason of the fitness of their surroundings. Even the plumber has reformed his salesroom by dressing it in the richest of decorations and colorings to harmonize exactly with those same elements in bath tubs, showers, basins and a vast number of fitments.

Thus both the exterior and interior of the modern commercial establishment have not only undergone marked changes but have contributed new values to business itself. They have, if possible, become

WAVERLY STREET SHOP BUILDING, PALO ALTO
Birge N. Clark, Architect

a more integral part of the products which they enhance and are more than ever responsible for their sale.

Quite as evident as the architectural and decorative transformations has been the change in store planning and arrangement. Present-day selling requirements have forced goods from the inner recesses of closets and cupboards onto exposed shelves and counters. Display is now a keynote of successful merchandising; it demands an open type of room interior, together with an abundance of flat surfaces, tables or counters, for the storage of goods where they can be seen—and handled—by customers.

The same element of display has accentuated several other features of the small store or shop. The "show" window has grown in importance as competition has increased. It is the merchant's principal means of attracting customers from among those who pass his store; it is in fact, his advertisement, and as such requires more than ordinary ability to make it beautiful —and productive.

The central entrance door which once bisected the window is now passing out. To afford the greatest amount of display space the modern store window generally occupies the full width of the building, save for the width of the door at one side. Along with these factors has come a demand for greater height and depth to allow the display of a larger amount of goods, as well as the frequent substitution of glass doors instead of solid paneled doors between the window and the store room.

Glass doors or casings for the back of the display window not only increase the amount of natural light in the front of the store, but give the interior an appearance

UNIVERSITY AVENUE SHOPS, PALO ALTO
Birge N. Clark, Architect

of greater area, which is highly desirable in the room of narrow width. Ventilation of the window is also an important feature that is now being given more attention. This is often controlled from the front by a grille, or by vents in the ceiling or the back of the enclosure.

In the newer shops one finds a marked improvement in the interior atmosphere resulting from the increased heights of ceilings. The addition of just a few feet creates a feeling of spaciousness that is worth many times the comparatively small cost, and at the same time allows a larger volume and a better distribution of light. The higher ceiling also provides space, if desired, for a mezzanine or balcony floor above the display window or along the side or rear walls of the room.

Particularly in the specialty shop, the balcony floor is a decided advantage, either in the display of merchandise or as a fitting room or a lounge for women customers. When reached by a stairway with wrought iron or decorated balustrade, this feature of the room may be made most attractive.

As important as any phase of store or shop interior planning is that of proper illumination, which has a very direct bearing upon the sale of merchandise. Where color is a pronounced factor of merchandise, proper light is of especial value in showing the goods to advantage.

Recently, a chain of stores revised its lighting equipment under expert guidance and found that the new system of illumination not only increased sales through better showing of the goods but saved money on lighting bills because of the smaller amount of current required as a result of more efficient distribution of light. "The better lighted stores draw more people in and help to sell more goods when they come," said an executive of this concern. "A poorly lighted store does not appeal to the woman buyer and, everything else being equal, she will do her shopping elsewhere. Our new lighting system floods our stores with a soft light that is almost free of shadows, but that enables one to see everything and read the labels and price tags with ease."

Architecturally and decoratively, of course, both the exterior and interior of the newer small stores, shops and studios have revealed pronounced tendencies toward either the modernistic or the more fitting type of period treatment. The design of the building itself has grown toward an expression of the character of the goods sold within it, while the manner of handling the interior presents an even closer harmony with whatever selling objectives may obtain. In fact, it is now realized that there are as many methods of treatment as there are types of merchandise for sale, and that, by the exercise of some ingenuity on the part of the architect and decorator, the entire scheme of design may be tied up intimately and appropriately with the goods themselves.

In this respect, the architect or designer, as well as the builder, who recognizes the merchandising problems of the merchant as they exist today, rather than as they existed five years or more ago, is naturally in a better position to serve more completely the specific needs of his clients and thus make his work the more successful. The problems are considerably more complex than those of former times, but they are not at all unsolvable, as can be amply proved by a large number of outstanding examples, several of which are represented in the work of Morgan, Walls and Clements of Los Angeles and Birge N. Clark of Palo Alto and illustrated herewith.

THE PLAYFUL SIDE of ARCHITECTURE

SKETCHES & DRAWINGS

by

JOHN EKIN DINWIDDIE
and A. HEWETSON

A CABIN IN THE SIERRAS
A. Hewetson

A STREET SCENE IN PARIS
JOHN EKIN DINWIDDIE

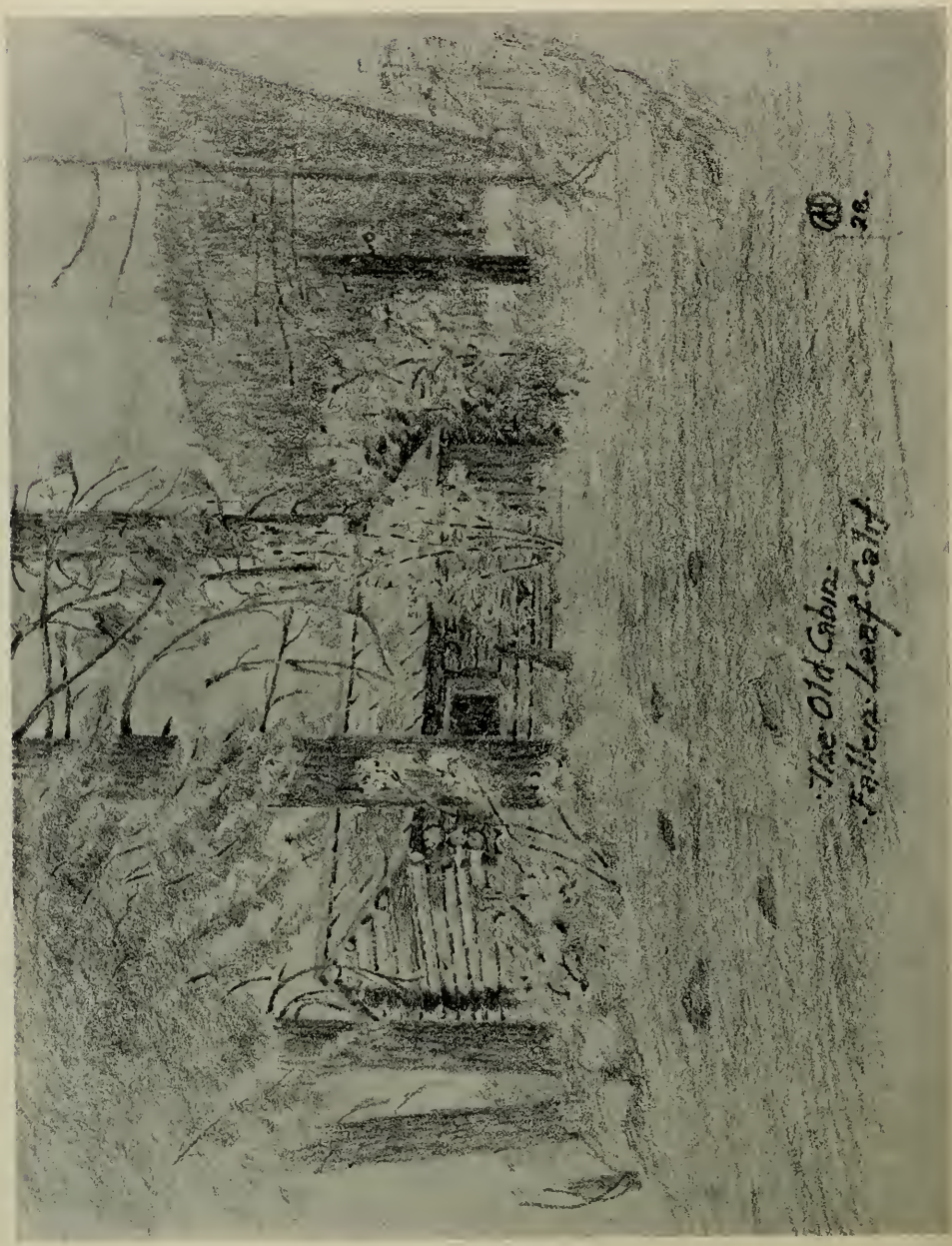
SKETCH OF CHAPEL, GARCASSONE

JOHN EKIN DINWIDDIE

A PUBLIC BUILDING
JOHN EKIN DINWIDDIE

THE LODGE, GLEN ALPINE, CALIFORNIA

A. HEWETSON



AN OLD CABIN AT FALLEN LEAF, CALIFORNIA

MODERNISM, or THE ARCHITECTS' SPEAK-EASY

By: William I. Garren, A.I.A.

WILL Rogers is authority for the philosophic observation, "If people voted as they drink, Smith would now be President." If one listens to the conversation of architects when they meet or should read what they write about the modern trend, one cannot but wonder who and what profession it is that is producing modern architecture. Architects do not build as they talk.

Wherever architects discuss modern architecture, the conversation takes on the tone of a religious controversy and there will be presented for analysis "The Modern Movement." All will agree that the proper time has not arrived; or argue that the old styles are tried and true; or that Modernism will run its short course and wane, and, as all novelties, will shortly die. The discussion usually terminates with the agreement that if we are patient, perhaps this new trend will lead us to something better.

After each of these meetings, some architect strays out of the fold and goes Modern to the consternation of his fellows. Later when asked by a prospective client to name the style of his creation he answers, "Continental," "Nordic," or "Mediterranean." Thus the better-business urge for conformity is satisfied, and the client is assured that he is making the proper conservative choice.

Ralph Adams Cram, Dean of American Architects, writes in the Journal of the A. I. A. of "Decadence in the Arts in France." To prove this thesis he illustrated the article with the most glaring examples of bad modern design that could be found. The Gothic, perhaps the most beautiful and best defined of architectural styles, could be completely discredited as a style if one were to select for an example any one of thousands of poorly designed Gothic structures which abound in all parts of the western world.

Today there is no style existing which, if adapted to use by a poor designer, can possibly result in a thing of beauty. James Monroe Hewlett in "Modernism and the Architect" says, "Thirst for novelty, and dread of novelty are equally objectionable characteristics of an artist. Striven for as an end it (novelty) becomes mere ecentricity." In this Mr. Hewlett makes a valid criticism, one which can be as truly applied to any new movement. If the architect merely seeks to create a novelty, his work will be a novelty. It may result in something momentarily spectacular and it will die as soon as increasing property values and obsolescence demand its destruction. Of the two, dread of novelty, or thirst for novelty, in architecture the dread of novelty is, perhaps, the sounder virtue; and on this point, architects are generally agreed.

Architects are entrusted with considerable sums of money for investment. Staples are the proper stocks for the conservative investor. Since good architecture is the one thing about a building that does not depreciate, it is often the exercise of wisdom to use or purchase styles from which Bruneleschi and the past-masters have written off the depreciation.

At a recent meeting of the San Francisco Chapter of the A. I. A., Irving F. Morrow, speaking on "Modernism versus Tradition," said: "One might be tempted to dispose of the matter by pointing out that while our historical styles were developing, all contemporary architecture was modern;

and that, if at any particular moment, during that evolution, architects had adopted the traditionalist point of view, the subsequent styles which grace the traditional repertoire would never have come into being."

How can we as architects revere the great periods of history, with their widely differing architectural styles, and at the same time consider that architecture is a static conception? Architecture records the history and environment of a people as they have lived, and it follows, as true as time, that each social or political adjustment, or each change in custom or invention, will find its reflection in a new expression of architecture.

Tennessee has written for itself a law that Evolution shall not be taught in that State. Such a State might enact a law that would recite: "Gothic is Gothic ordained by God; and today, as ever before, you shall dwell in Gothic temples.

Where man is free to think and to build, his arts and his sciences will advance parallel to his mode of living. It is natural that there should be experimentation and evolution in all the works of man. Perhaps modern art or architecture is a passing manifestation. This the architects of today will determine. If we produce good works, they will live to be copied by the traditionalists of the future.

Today an appreciative and receptive public begs for leadership in its artistic expression. Architecture, most conservative of the arts, will soon become conscious of this growing desire and the world will once again experience a renaissance in Art.

DINING ROOM, HOUSE OF MR. T. FENTON KNIGHT, LA CANADA
Henry Carlton Newton and Robert Dennis Murray, Architects

A.I.A. PRIZE AWARD HOUSE at SAN MARINO

FIRST prize award in a competition held under the direction of the Southern California Chapter, American Institute of Architects, for the two-story residence illustrated was given to Henry Carlton Newton and Robert Dennis Murray, architects, of Los Angeles.

The house is a seven room scheme with stucco exterior. The general arrangement is unusually direct and open. Hall space has been reduced to the minimum. The plan is especially suitable to a fifty foot lot and for those desiring a view from second story bed rooms, the scheme is ideal.

Competition House
By
Henry C. Newton
and
Robert D. Murray
(Other illustrations on Pages 89 and 91)

A front doorway and stair hall with enough formality for a house of this size, form the entrance. A stair rail of wrought iron leads to the second floor. The living room has three exposures and the dining room may also have three without spoiling the exterior effect or interior furniture space. All the second story bed rooms may have three exposures. Thus the scheme when finally built was provided with three exposures for all the rooms, with the exception of the kitchen and the maid's room. Adequate closet and dressing room space have been provided. The portion allotted to a breakfast nook can easily be converted into an attractive breakfast room with corner cabinets built in place if desired. The halls are well lighted and the second story hall is provided with French doors leading to a balcony, hence a very delightful upstairs porch has been formed. Two of the bedrooms have front exposures and a balcony with French doors opens from one of these.

The whole scheme occupies less than 1000 square feet. It is very compact, every available square foot having been made to count. The four bed rooms and three baths, living and dining rooms, breakfast room, kitchen and service porch, with numerous closets and dressing rooms, form a very easy plan to roof and build. Figuring five dollars a square foot, which is a generous allowance for so regular a plan, the total cost was well under ten thousand dollars. Even in our mild climate a good heating plant is welcome on cool mornings. Hence a unit heating system in the cellar. The cellar stairway is conveniently located leading from the kitchen.

The exterior is a logical expression of the direct interior arrangement. Interest-

ing wrought iron balconies with the characteristic Spanish dark red or rust color awning balcony drapes at the French windows and the yellow-green shutters, also the balcony flower pots and colored tile around the front living room window, lend a charming color with the white stucco walls as a background. Copper screened ventilators have been installed between every other rafter under the wide overhanging eaves to give good roof ventilation.

The eaves over the balcony covering the entrance was dropped slightly to give added protection and interest to the scheme and a copper gutter and downspout are provided at this place only. Pattern leaded glass windows have been used in the dining room and leaded rondel windows were employed in the end living room windows and front door.

The residence is withal very charming and extremely practical. A large transplanted olive tree near the front entrance lends a finishing touch to the landscaping.

Del.-Roger Hayward

LOS ANGELES STOCK EXCHANGE, LOS ANGELES, CALIFORNIA

Samuel E. Lunden, Architect; John Parkinson and Donald B. Parkinson, Consulting Architects

MY EUROPEAN IMPRESSIONS

By
C O Clausen Architect San Francisco

XVI BRANDENBURG GATE, BERLIN

FOUR and a half million people live in Berlin and everybody here seems to be busy. The hotels, cafes, theaters and shops all appear to be doing well.

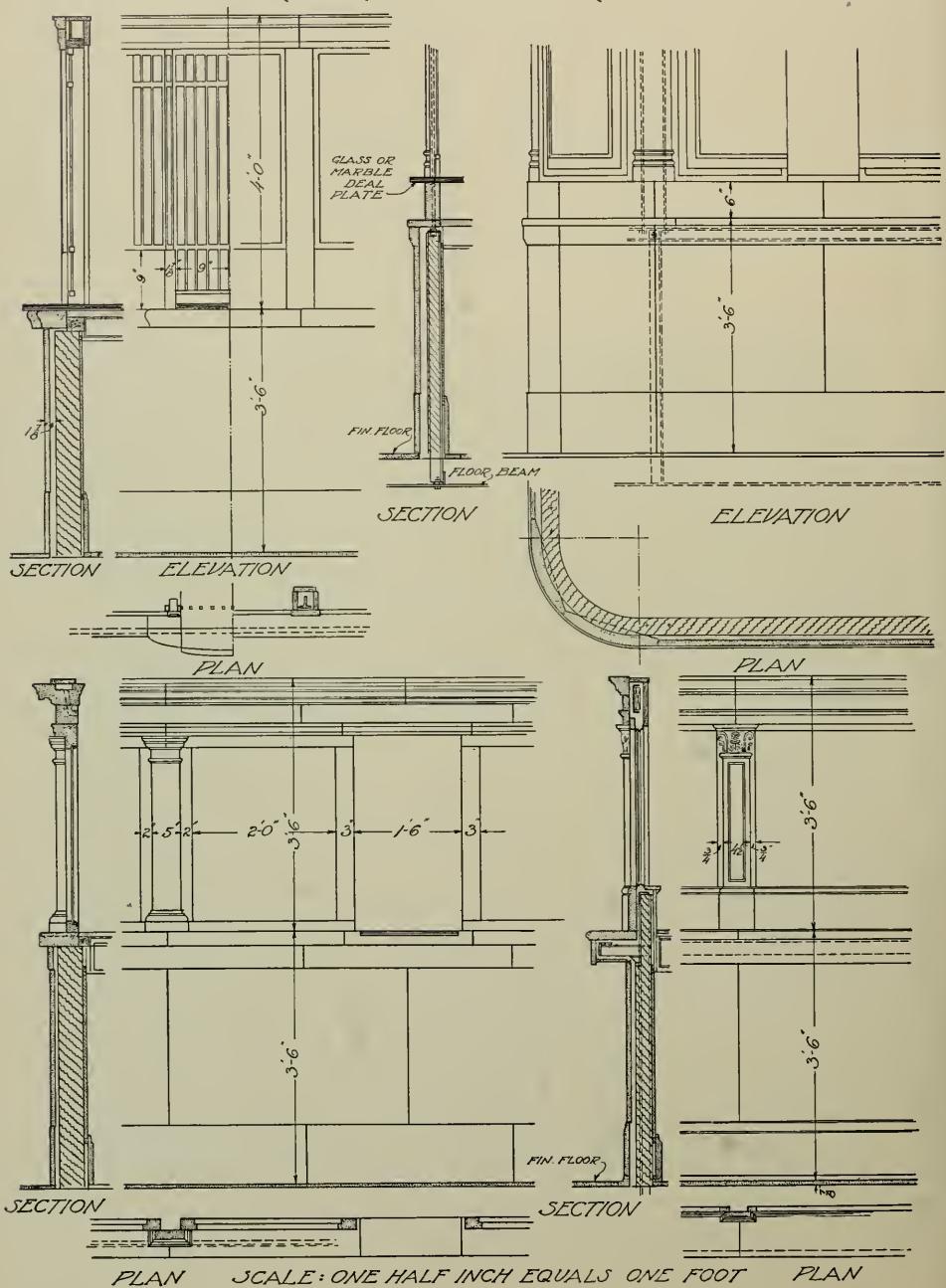
The Beer Gardens and other places of amusement are all crowded and the people like lots of entertainment. The Beer Gardens are open-air places and very commodious, some seating as many as seven thousand persons. On Sundays you will find these places filled with many families enjoying their national beverage with music furnished usually by a large military band. Some of the Gardens have dancing platforms with American "jazz" orchestras playing the dance music.

One of the biggest attractions in Berlin is the Zoological Garden, an enormous place containing without doubt the finest collection of animals in the world. Besides all the wild animals and other freak creatures, you see numerous varieties of domestic animals such as cows, dogs, cats and sheep. Thousands of specimens of insects, flies, bees and birds are kept alive here and all carefully designated and catalogued.

Most of the public buildings and monuments of Berlin are ill-proportioned and overloaded with senseless grotesque ornamentation. The Reichstag building and the winged Victory Column is apt to jar the artistic sense and the Dom or cathedral, although it cost over three million dollars, is so bad that it is painful.

One of the handsomest and most famous streets of Berlin is the "Unter den Linden" or "Under the Lime Trees" so called from the rows of lime trees along the avenue. At the west end of this thoroughfare, where it enters the famous Tiergarten, a beautiful park of six hundred acres, stands the imposing Brandenburg Gate. It is an imitation of the Propylaea at Athens and has five different passages separated by massive Doric columns. The center passage was formerly exclusively used for the Kaiser but is now opened with the rest of the entries. The entire structure is two hundred feet in length and seventy feet in height and is surmounted by a bronze car of Victory drawn by four horses driven by the Goddess of Victory. When Napoleon Bonaparte passed beneath this gate as conqueror in 1806 he ordered the bronze chariot and horses removed to Paris as a trophy, but after his downfall it was restored to its former position where it has remained ever since.

BANK SCREEN CONSTRUCTION



Courtesy Vermont Marble Company

DETAILS FOR MARBLE BANK SCREENS

RIGHT of ARCHITECT to RECOVER for PLANS and SPECIFICATIONS

By Leslie Childs

AS a general proposition of law, where an architect is employed to draw plans and specifications there is an implied contract that the work will be suitable for the purpose intended. It follows, if the plans and specifications for a building do not comply with city or state building regulations the architect may, under certain circumstances, be denied the right of recovery for his services. The application of this rule of law, and the reasoning upon which it is based, may be illustrated by a brief review of the Washington case of Bebb Vs. Jordon, 189 Pac. 1035.

In this case the defendant owned a vacant lot in the city of Seattle. There was a six-story apartment house upon a near-by lot known as the Sheridan Apartments. The defendant examined this building, and was given to understand that it cost less than $100,000. He thereupon decided that if he could get a similar building erected within that amount he would put one up.

The defendant thereupon took the matter up with the plaintiffs, who were architects, and after an investigation they reported that a similar apartment house could be built for the amount stated. The defendant thereupon instructed the plaintiffs to prepare the necessary plans and specifications for a six-story structure. The plaintiffs began the work but before the drawings were completed the defendant decided to increase the building to eight stories, and instructed the plaintiffs to thus change the plans.

The plans and specifications were completed, and bids were received for the work. But since the lowest bid received was about $40,000 above the estimated cost the defendant abandoned the enterprise and declined to pay the plaintiffs for their services. The plaintiffs thereupon brought the instant action to recover under the contract.

In defense to this action the defendant, among other things, set up that the plans and specifications for the eight story building violated the building ordinances of the city of Seattle. There was also evidence to the effect that to make the plans comply with the building ordinances they would have to be entirely redrawn. The trial of the case, however, resulted in a judgment in favor of the plaintiffs. From this judgment the defendant prosecuted an appeal to the higher court and here, in passing upon the right of the plaintiffs to recover, in view of the facts as they have been outlined, the court, among other things, said:

"Unquestionably, an architect, when employed generally to draw plans and specifications for a building of a given style and dimensions, may recover for the reasonable value of his services on a compliance with the terms of the employment, even though the building planned be one which the employer cannot erect at the place it is his purpose to erect it. But the rule is otherwise where the lot or the location of the lot on which the building is intended to be erected is made known to him.

"In such a case he is bound to know the building restrictions of the particular place, and draw the plans and specifications accordingly, else forfeit his right of recovery for his services. This on the familiar principle that in all such contracts of employment there is an implied condition that the work, when completed, shall be suitable and proper for the purposes intended.

"An architect is an expert in his part in his particular line of work. He so holds himself out, and is employed because he is such. He is not only bound to know the character of materials necessary to the construction of a safe and durable building of the design required, but is bound to know also the building restrictions imposed by the law of the place where he is informed the building is to be erected. * * *"

But the plaintiffs contended that even though the plans and specifications did violate the building ordinances of the city of Seattle, they were entitled to compensation because they had followed instructions and drew them in conformity with the Sheridan Apartments, and that the latter building violated the ordinances in the same manner. In disposing of this contention the court, in part, said:

"But we think it plain that this fact would not excuse the architects. The rule might be otherwise had the defendant known the facts and directed plans to be drawn in accordance therewith in spite of such knowledge. But the evidence makes it clear that he had no such knowledge, and that a mere inspection of the building and the ordinances would not disclose the fact to a person not skilled in building construction.

"On the other hand, the plaintiffs did know of it, or ought to have known of it, and it was negligence on their part not to so inform the defendant before entering upon the work of drawing the plans. It follows there can be no recovery for the plans of the eight-story building. * * *"

In conclusion the court reversed the judgment of the trial court which permitted the plaintiffs to recover for their work in drawing the plans and specifications for the eight-story building. However, the court ruled that the plaintiffs were entitled to payment for the work done on the six-story building up to the time the work was interrupted, and gave plaintiffs judgment for this work.

The holding in the foregoing case appears to be in accord with the weight of authority on the subject. Which is to the effect that an architect is bound to draw plans and specifications with the lawful building requirements of the location of the building in mind. In other words, he is bound to be familiar with such regulations, and if he overlooks them he may be placed in a difficult position in respect to receiving payment for work done that does not comply with such requirements.

THE ROMANCE of the PASADENA COMMUNITY PLAYHOUSE

By Elmer Grey, FAIA

WE admire romantic deeds of the past that are imbued with idealism and fraught with difficulties, but I wonder if those who participated in such ventures always realized the romantic nature of their hazards. At any rate the difficulties and discomforts that accompany some of our best endeavors nowadays often tend to obscure their ideal character.

The promotion and erection of the Pasadena Community Playhouse is a case in point. It was an enterprise filled with idealism of a very high order, but it was also accompanied by much strain and discomfort on the part of those who struggled with its difficulties. These latter should not however be allowed to becloud its high ideal character.

Pasadena had long been in great need of a suitable and permanent structure to house the operations of its Community Playhouse Association, an organization devoted to the presentation of clean plays by non-professional actors, and the general uplift of the community by means of the dramatic art. For years it had been holding its performances in an old, uncomfortable and poorly ventilated building totally inadequate for the purpose. A structure was needed that would be not only comfortable and attractive for the audience, but safe for the young people taking part therein, one that would have a green-room and dressing rooms accessible to their parents and friends. Successive attempts over a period of years to get such a building started had failed. Finally into this field entered a promoter. He said that he felt that he could put across a new building for the Pasadena Community Playhouse Association if he could combine with a reputable architect, and he asked me whether I would join him in such a venture. After considering the matter I consented, but had I known the nature of the difficulties before me I might well have faltered.

Promotion, when it is done right, is a decidedly legitimate line of endeavor. All new countries grow by it, and the right kind of promotion often requires a high type of financial and executive ability. When applied to public or semi-public undertakings it requires a keen understanding of public spirit. And the man I had to deal with knew his game.

By various means the ways of which only such a man knows, he managed to raise sufficient funds to cover the cost of plans. They rep-

PASADENA COMMUNITY PLAYHOUSE
Curtain Painted by Alson Clarke

resented of course the very minimum for which such a building could be built; for the public and the Association were in no mood at that time to pay more. In fact it then seemed doubtful indeed whether the sum required to erect a building such as was then contemplated, namely $175,000.00 could ever actually be procured. A campaign for subscriptions was launched however and finally by dint of much hard work enough was pledged to warrant, in combination with a mortgage, the starting of the building.

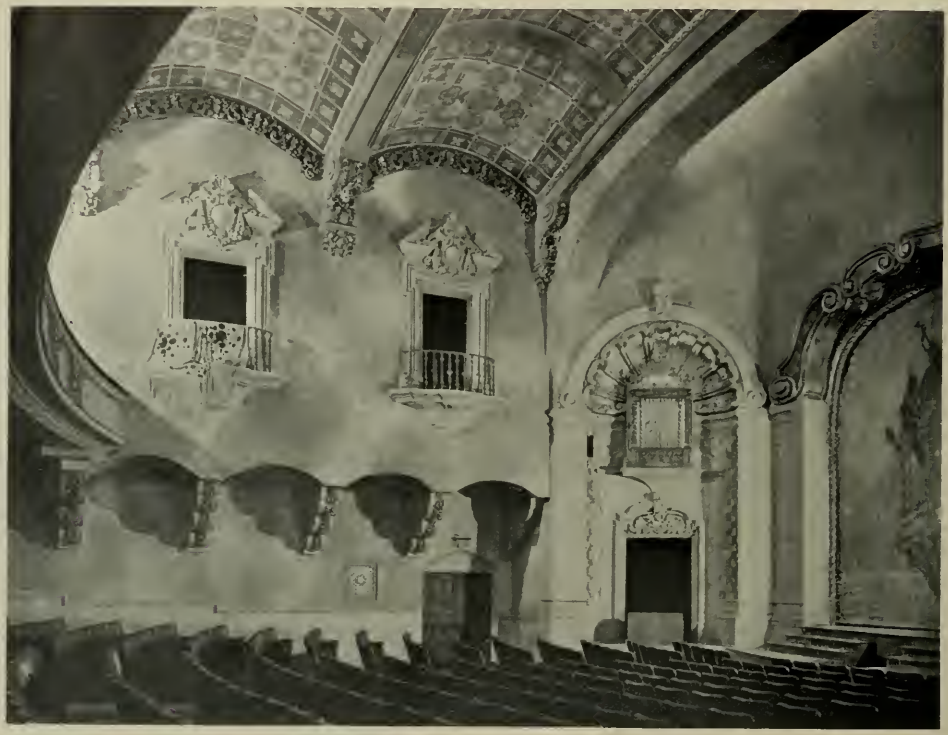
PASADENA COMMUNITY PLAYHOUSE, PASADENA, CALIFORNIA
Elmer Grey, Architect

Then the real drama began! It was fully as tense at times in its conflict of emotions and suspense as any that had ever been enacted on their stage. This time however the actors were those engaged in the building operations, and they were experiencing very real emotions—while the audience, which was the general public, knew very little of what was going on behind the scenes. The Association had placed the control of its building operations in the hands of a committee of bankers, which, in its turn, had agreed upon one man to represent them and the Association and to act as a sort of overseer during the building operations. The building was no sooner started than there were those who, represented by this overseer, awoke to the fact that a structure of minimum cost such as was then contemplated was not suitable to the high position which the future Playhouse was to occupy in the community. The Association had a large membership with strong public sentiment back of it, and its building enterprise was being watched by similar bodies in many parts of the country. Pasadena was also about to have a new Civic Center with a fine new City Hall, a Library and an Auditorium, and the en-

thusiasm aroused in connection with these enterprises also doubtless lent a contributory hand. The slogan of the Association soon became, "There is nothing too good for Pasadena!" So, even though the building had been started, the overseer, backed by others, ordered innumerable and vital changes in the plans looking toward its betterment. Many of these ideas did not crop up until the structure was well along. This was largely due to the fact that there was no adequate precedent for such a building as they wanted. It was not to be a theater in the ordinary sense of the term, but was to contain a recital hall, business offices, director's rooms, a possible future art center of uncertain requirements, and revenue producing shops. Nor could the auditorium and stage follow conventional theater plans, on account of the modified form of theatricals that were to be given. The Green Room also was to be decidedly different. A multitude of ideas for housing these requirements were showered upon the architect as the building continued to progress. At a very late day a large portion of the structure was altered from inflammable to fireproof construction! What that and countless other vital changes meant in the way of disrupting months of work on the part of the architect in co-ordinating various parts of the plans only other architects can know! Each change meant a careful search through the plans to see what other parts it would affect. The blueprints became so covered with modification stickers that it required several days to attach them to a set of plans—and the original plans became entirely obsolete! It was a nerve-wracking experience and I dare say had much to do with putting the architect on the shelf for three years time.

PASADENA COMMUNITY PLAYHOUSE, PASADENA, CALIFORNIA
Elmer Grey, Architect

Each change also meant an increase in cost, and the directors of the Association began to ask where the money was to come from. For awhile no one seemed to know. The fact that a wonderfully fine Playhouse should be built, and that Pasadena was wealthy, was answer enough for some. They felt that when it became a question of ruin or more funds there were those in Pasadena who would go down deeper in their pockets! The situation became critical. Finally a committee was appointed to put a check upon further expenditures. The overseer, in open meeting, refused to recognize it! The ship of the Association's progress became wobbly! The presiding officer was a man who had received much acclaim and many honors as a hero of Verdun—and compared with his experiences in France such a situation was of course of small moment. Tactfully, patiently and wisely he handled it. Practically all the expenditures required to make the building a very fine one had already been authorized. So, he urged, what was the use of a squabble. With the assistance of the committee of bankers a very large additional cost, one nearly double that of the original estimate was successfully financed and the building completed practically in harmony with the high hopes of those who had pictured it at its best.



AUDITORIUM, PASADENA COMMUNITY PLAYHOUSE, PASADENA
Elmer Grey, Architect; Dwight Gibbs, Associate Architect of the Interior

Through all the stress of such proceedings there ran a strong current of idealism. To a large extent it was a co-operative achievement. Artists, architects, contractors and capitalists rubbed elbows and gave of their time or material either in part or

whole. The drop curtains were donated. Also the painting of the main curtain. In completing the latter one man of leisure whose particular hobby was the painter's art was on the scaffold following directions with his brush as hard as any hired assistant—but without pay and in golfing knickerbockers!

Public sentiment, already strong, was made stronger by the helpful attitude of the newspapers. Finally the building was completed and it came time for the opening. The affair was a social event of first importance. Names that had received international honors for achievements in science, art and war were on the reception list. The entire house had been sold out to subscribers to the building fund before the box office opened. The newspapers devoted columns to describing the occasion. Here is an extract from one:—

"What a brave picture was presented! The night was almost tropically fine and to be under the stars was in itself an inspiration. The stately palms before the courtyard seemed to stand in greater dignity than usual now that the building barriers which had ingloriously surrounded them were finally withdrawn. Up and down the old-fashioned outer stairway a passing pageant of beauty was proceeding and in and around the beautiful, flag-stoned compound a changing series of lovely groups was presented as the neighborly clusters of playgoers assembled for the occasion.

"On every hand was friendliness and the sense of a satisfied accomplishment. The great theater, rising in simple lines of grace and substantiality, seemed to loom above the gathering throng as the silent token of a great endeavor. Picturesque Spanish groups paraded the courtyard and balconies, adding that tinge of color which enlivened the quiet-hued structure; the sound of guitars and singing lingered in the patio; and in and around the lesser halls of the theater aggregations of distinguished people, noted around the world, were commingling with the humbler folks of the city, finding in the occasion and the event a common bond of community good-will."

A Community Playhouse such as this indicates that a great number of people of a substantial character are no longer satisfied with moving pictures and professional drama alone for histrionic amusement, but also want to get into the game themselves; and they want this so seriously that they are willing to pay for a costly structure as a home for such an in-door sport. The building expresses its unusual function of presenting plays enacted by actors chosen from talent among the people in many ways. Here the actors do not confine their operations to the stage. The plan is such that parts of the auditorium as well become their settings. Balconies similar to those which we are wont to associate with Romeo as he whispered love to Juliet occur on each side and are accessible from the stage. The floor of the latter extends out over the orchestra pit and reaches down by means of steps to the very feet of the first row of chairs, the music being carried through the steps by means of sound conveying material. The old-fashioned Green Room of Drury Lane days is revived in the form of a spacious and beautifully decorated room located immediately beneath the stage and connected with the auditorium directly by two flights of steps. At the conclusion of performances the audience is invited down into it to meet the actors in truly Drury Lane fashion. Needless to say this arrangement greatly enhances the pleasure of the evening entertainments.

* * *

It is one thing to raise $300,000.00 for charity or for a commercial enterprise, and quite another to raise that amount for a building whose purpose is a little understood form of idealism. The public had first to be educated up to the Community Playhouse idea and to believe in it. To have successfully put over such an undertaking was a most remarkable achievement. It marked a milestone in the history of recreational events in Southern California. It was a fine illustration of modern romance.

"Color!" Cries the Climate

SHARPLY defined are the differentiations in tastes and customs, east and west. Kipling's lines, "Oh, east is east and west is west and never the twain shall meet," express an axiom the truth of which is continually demonstrated. It is obvious, therefore, that the difference between the likes and dislikes on the two seaboards of the United States must be great.

Nature, as the world has been informed by enterprising chambers of commerce, has been tremendously generous to the west. She has flooded a broad area with glittering sunshine and has blended in profuse beauty the charms of sapphire sea, of purple mountain peak, of verdant valley, of golden desert. We live in a land of luxuriant contrasts, a land where the commonplace is out of pace, as it were.

Architects and professional decorators find ready inspiration in contemplation of the lavish method of decoration which Nature herself has employed in our region, says a writer in *Western Decorator*.

The Spanish type of architecture, allowing introduction of the vivid and the unique as it does, is the accepted way of interpreting the western locale in home construction. To maintain the motif, the colors used in the interior must create an atmosphere which is at once light and cheery tending to be gauche.

Thus wide avenues of trade have been opened for eastern manufacturers of draperies, who, because of their own rock-bound location fail to sense the importance of the western market. The dull drapes which ornament eastern homes strike an inharmonious note in the sunlit west, where the cry is ever for new colors, new combinations, new contrasts.

Most of the sleeping quarters in eastern homes are on the second and third floors. The "family" bedrooms usually are unpretentiously furnished, an attempt to bring about an illustion of charm and luxury being made only in the guest room. In the west, the bedrooms of the average home are on the first floor, opening off the living room.

An opportunity is presented for the origination of striking designs. The love of color, inherent in the Native Son and the Native Daughter, is quickly acquired by the transplanted easterner, who promptly "goes native." Window drapes need not be the only creations. The design may be carried out in bedspreads, electric light shades, dressing table covers and pillow covers.

VENTILATE PUBLIC GARAGES

THE extent to which thousands of automobile owners are exposed to the poisonous fumes of carbon monoxide in many public garages which have inadequate equipment for positive mechanical ventilation of their driving and storage space, should be a matter for special investigation by health authorities.

The smaller type of garage can be made safe by the use of exhaust fans, ventilating experts have found, but larger garages, where numerous cars are operated, should provide a properly designed exhaust system of ducts connected to suitable exhaust fans. Tests have shown that climatic conditions vary so much that vitiated air will not exhaust by natural means through vents located on the roofs. The air and gases must be driven out by fan action.

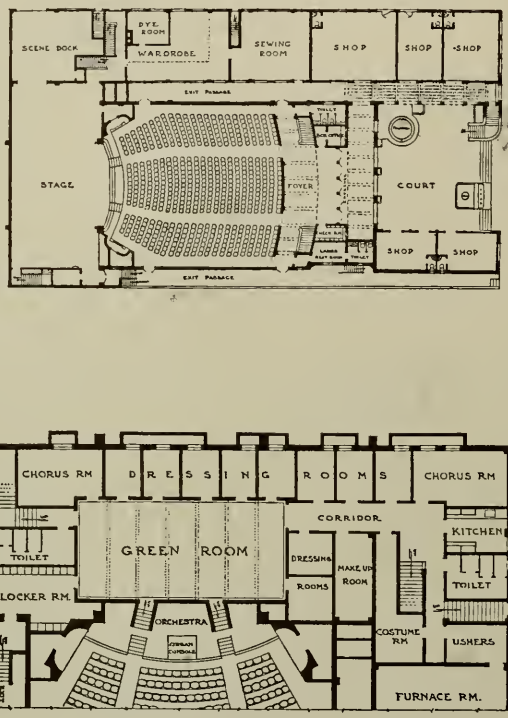
Several of the largest automobile manufacturers are to be congratulated on their efforts to protect the public health by insisting that their branch distributors and dealers provide mechanical ventilation in their garages and service stations. One leader in the industry sent out a message to its dealers which should be seriously read and acted upon by every garage operator and service manager. This bulletin should be posted up on the door of every garage:

"The repair room, where the mechanics are making adjustment of carburators or testing engines, should by all means be amply ventilated at all times. In fact, special attention should be given to this room, to provide sufficient ventilation in order to protect the workmen properly."

Photo by Hiller

PASADENA COMMUNITY PLAYHOUSE, PASADENA, CALIFORNIA

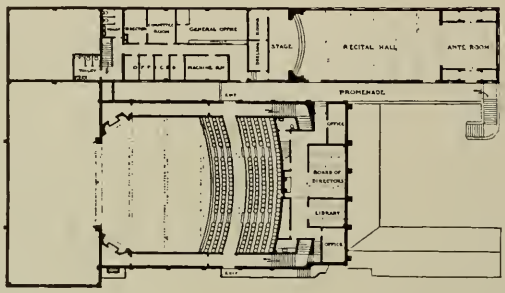
ELMER GREY, ARCHITECT



PLANS, PASADENA COMMUNITY PLAYHOUSE, PASADENA

ELMER GREY, ARCHITECT

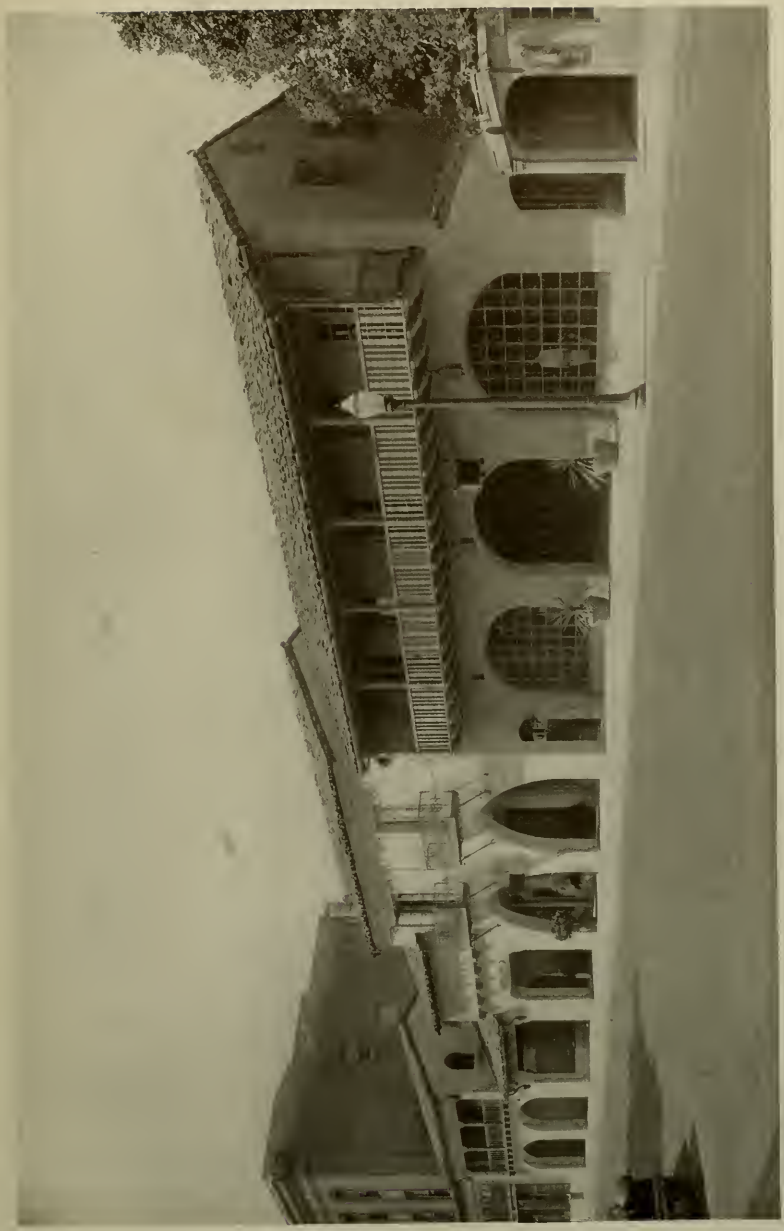
CORNER OF PATIO, PASADENA COMMUNITY PLAYHOUSE, PASADENA, CALIFORNIA
ELMER GREY, ARCHITECT



PLAN, PASADENA COMMUNITY PLAYHOUSE, PASADENA

ELMER GREY, ARCHITECT

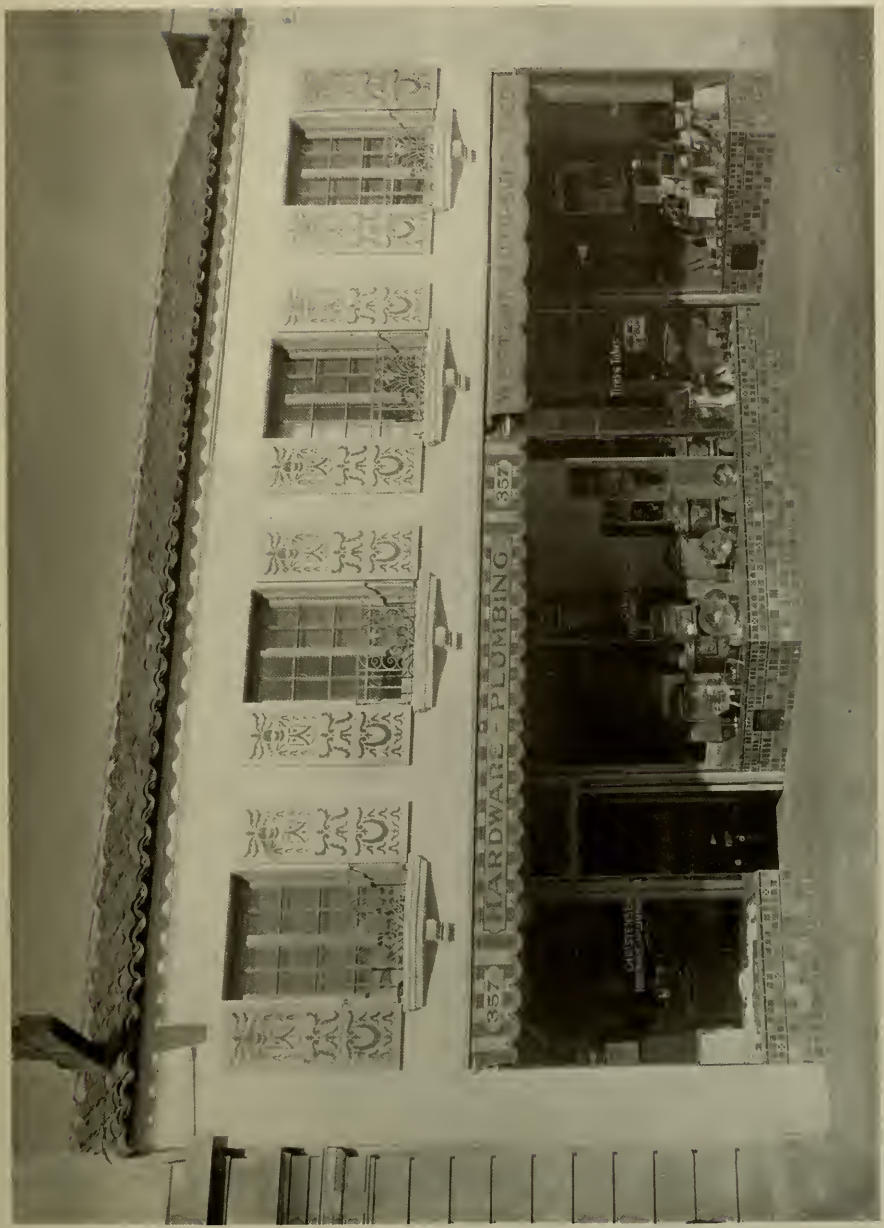
FOUNTAIN AND STAIRWAY, PASADENA COMMUNITY PLAYHOUSE, PASADENA
ELMER GREY, ARCHITECT



RAMONA STREET STORES, PALO ALTO, CALIFORNIA

BIRGE N. CLARK, ARCHITECT

Photo by Crandall



UNIVERSITY AVENUE STORE BUILDING, PALO ALTO
BIRGE N. CLARK, ARCHITECT

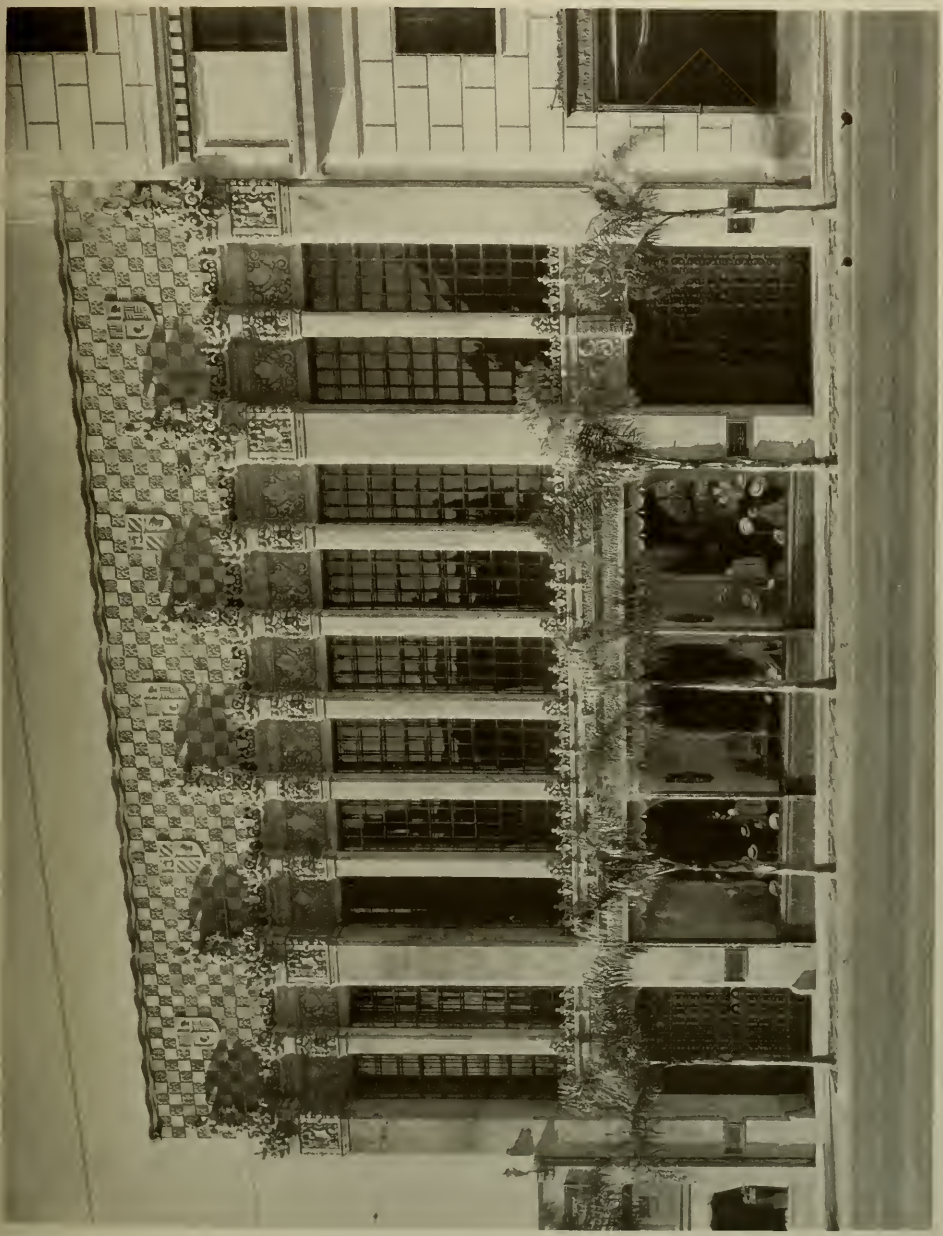
FACTORY FOR KRISPY KAKE KONE KOMPANY, LOS ANGELES
SEXSMITH AND WADE, ARCHITECT AND ENGINEER

DETAIL, FACTORY FOR KRISPY KAKE KONE KOMPANY, LOS ANGELES
SEXSMITH AND WADE, ARCHITECT AND ENGINEER

PATIO, McKINLEY SMALL SHOP AND STUDIO BUILDING, LOS ANGELES, CALIFORNIA

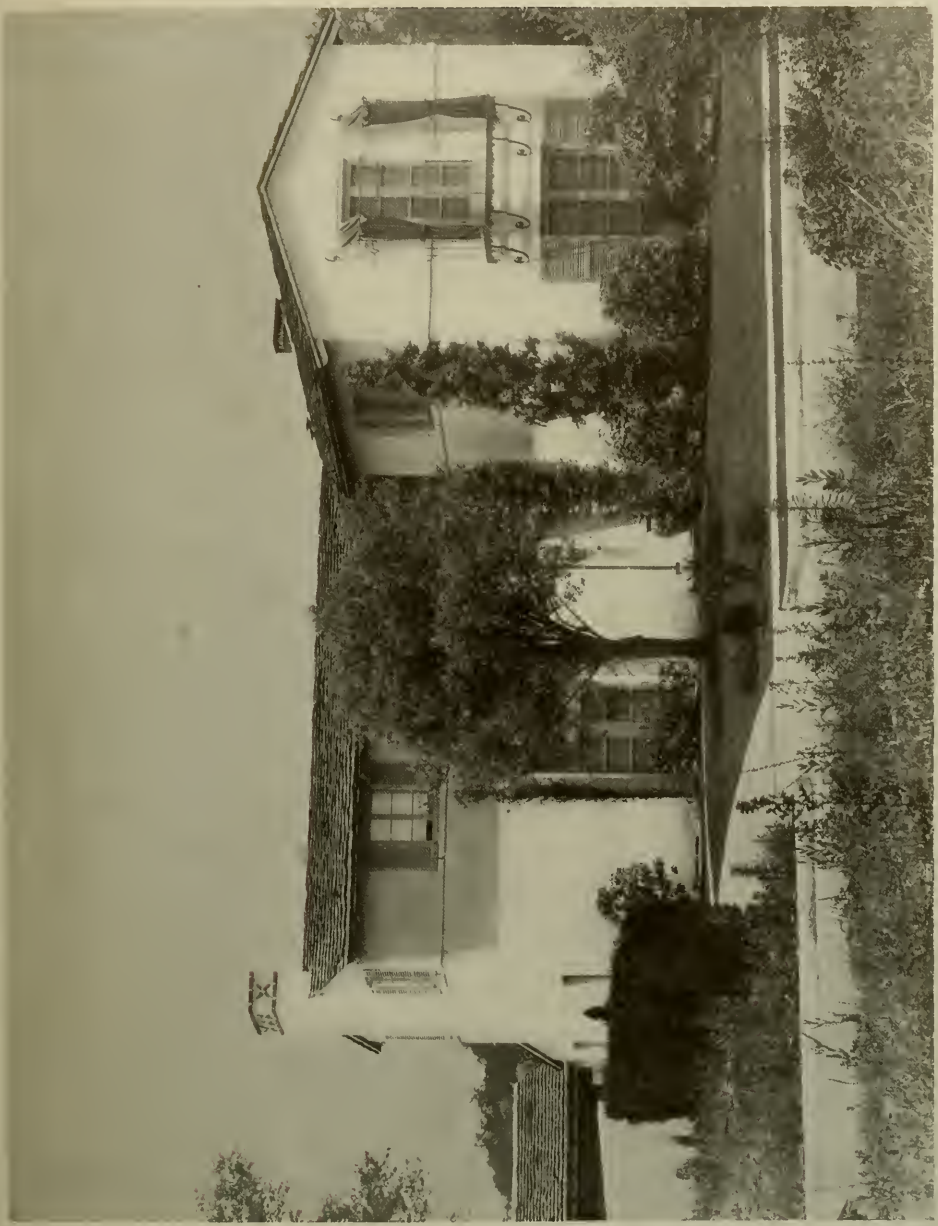
MORGAN, WALLS AND CLEMENTS, ARCHITECTS

AUTOMOBILE SHOWROOM FOR MR. RALPH HAMLIN, HOLLYWOOD
MORGAN, WALLS AND CLEMENTS, ARCHITECTS



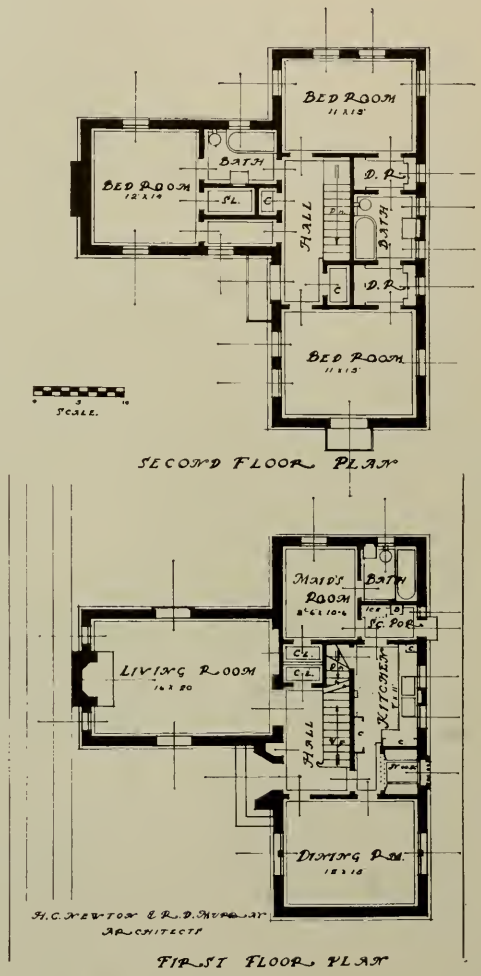
STORE BUILDING FOR MULLEN & BLUETT, PASADENA
MORGAN, WALLS AND CLEMENTS, ARCHITECTS

INTERIOR, STORE OF MULLEN AND BLUETT, PASADENA
MORGAN, WALLS AND CLEMENTS, ARCHITECTS



COMPETITION HOUSE BUILT FOR MR. VAN JOHNSTONE, SAN MARINO

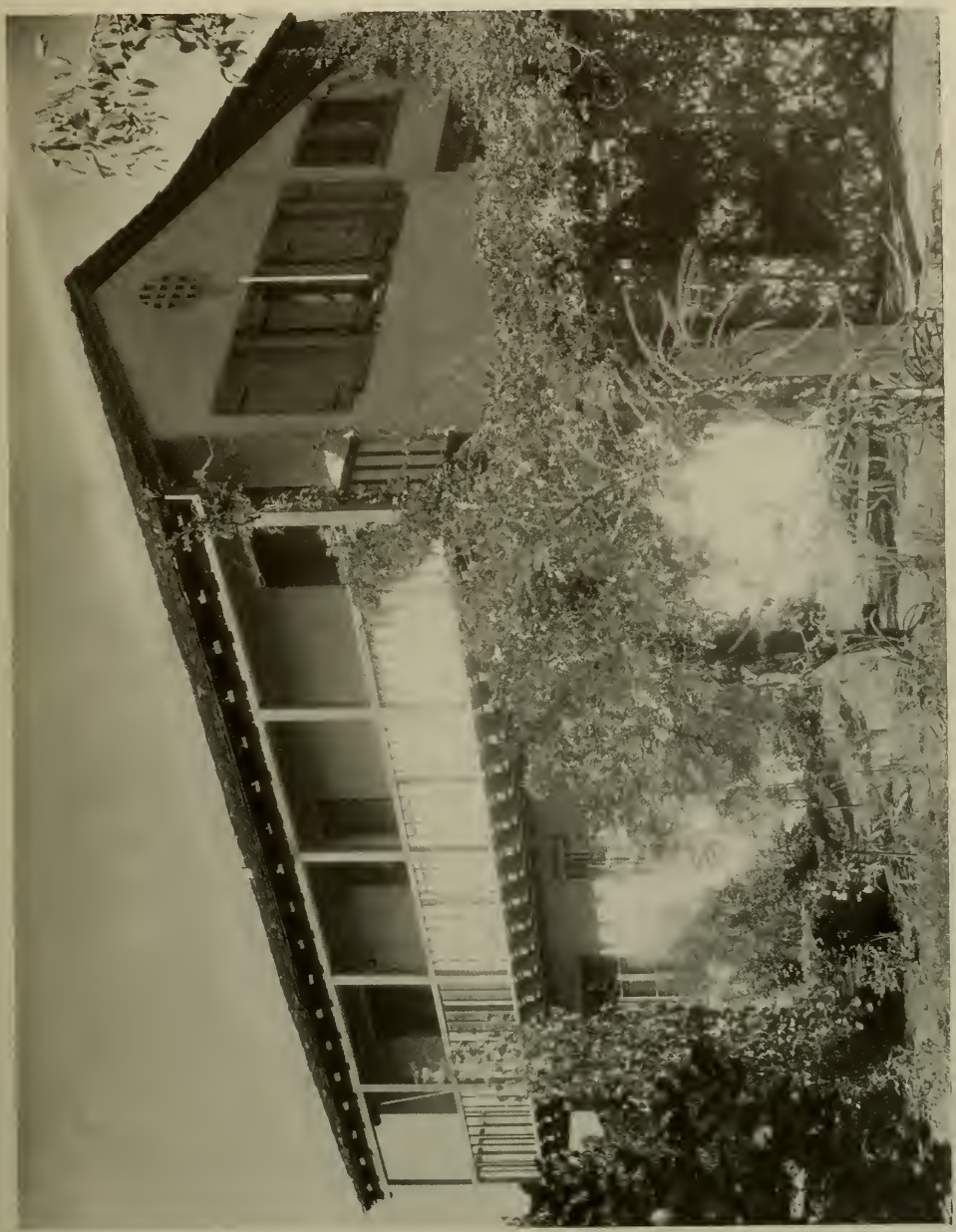
HENRY CARLTON NEWTON AND ROBERT DENNIS MURRAY, ARCHITECTS



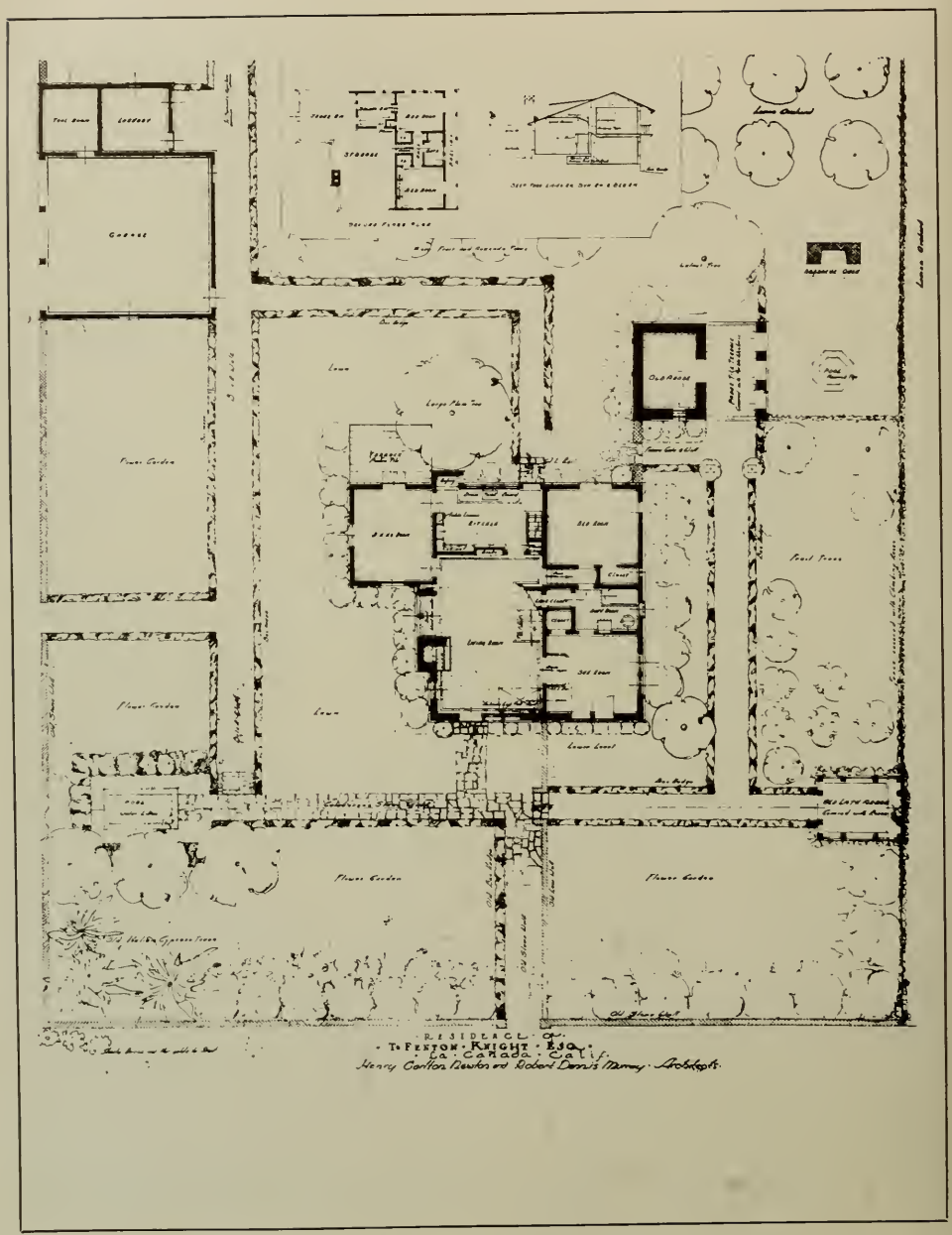
PLANS, COMPETITION HOUSE, SAN MARINO, CALIFORNIA

HENRY C. NEWTON AND ROBERT D. MURRAY, ARCHITECTS

DETAIL, COMPETITION HOUSE BUILT FOR MR. VAN JOHNSTONE, SAN MARINO
HENRY C. NEWTON AND ROBERT D. MURRAY, ARCHITECTS



HOUSE OF MR. T. FENTON KNIGHT, LA CANADA, CALIFORNIA
HENRY C. NEWTON AND ROBERT D. MURRAY, ARCHITECTS



PLANS, HOUSE OF MR. T. FENTON KNIGHT, LA CANADA
HENRY C. NEWTON AND ROBERT D. MURRAY, ARCHITECTS

HOUSE OF MRS. F. W. HUNT, PALO ALTO, CALIFORNIA
JOHN K. BRANNER, ARCHITECT

Photo by Bringer

DETAIL, HOUSE OF MRS. F. W. HUNT, PALO ALTO, CALIFORNIA
JOHN K. BRANNER, ARCHITECT

ENGINEERING

and

CONSTRUCTION

WELDED PLATE GIRDERS IN SHARON BUILDING, SHARON, PENNSYLVANIA

Featuring

Arc Welding in Steel Construction

YALE UNIVERSITY LIBRARY, NEW HAVEN CONNECTICUT
Arc Welded Construction Under Westinghouse Supervision

FIRST WELDED PLATE GIRDER BRIDGE, TURTLE CREEK, PENNSYLVANIA

The Practicability of WELDED STEEL CONSTRUCTION

By Gilbert D. Fish, C.E.

ARC welding in steel construction has become the subject of so much discussion that most engineers, architects and steel contractors have acquired ideas about it. The few who have been active in planning and supervising welded buildings or bridges have generally confined their statements to descriptions of specific structures and have avoided public discussion of the subject as a whole, in order to remain on a firm basis of facts. The controversial topics, particularly the economy of the method, present complicated problems to which only partial answers have been furnished by the experimental work and the practical construction thus far done.

While there are marked differences of opinion as to some of these questions among those engaged in developing welded construction, there is enough evidence to discredit unmistakably some foolish ideas which have gained wide circulation. Inasmuch as construction men who have not yet taken up welding must form some general opinions before they do so, it will be better for them to gain their impressions from those who have used the method than to pick them up from irresponsible sources. The time has come to express opinions based on the limited experience thus far gained, even though some of them may have to be changed presently.

Enough structures have been arc-welded, all so far without failure, to establish that the method is feasible. The success of the structures cannot be ascribed to chance. Granting that the planning and supervising of all these operations may have been especially careful because of the novelty of the method, it is still a demonstrated fact that the welding process, adequately controlled, is practicable in steel construction.

The term "human element" has become attached to the word "welding" to such an extent that there is a widespread misconception as to the reliability of the process. Those who make daily use of welding for critical connections are in substantial agreement that observance of rudimentary procedure control and correct design insure safety. It is true that there is an important human element in welding by hand, and that an untrained operator is a hazard; it is equally true that a trained inspector can determine whether an operator has the skill necessary for reliable welding.

Procedure control has three essential parts: Qualification of operators, working conditions and inspection. All three are definite; none should be overlooked. The same considerations apply to riveted steel, reinforced concrete and timber framing. Does any one believe that a construction method, in order to be conservative, should be reliable in the hands of inexperienced workmen, under wrong working conditions and in the absence of trained inspectors? There is no such method.

Welders who are acceptable for structural work make welds which do not vary more widely in strength than rivets driven by experienced riveters. A trained inspector who sees a weld being made can vouch for its reliability as positively as a rivet

inspector can pass on the soundness of a rivet which he has watched from the time of heating until completion of driving. If it were commercially practical to provide inspection of every weld during the making and of every rivet during the driving, control of both methods would be absolute, or substantially so. In commercial work it is necessary to rely on inspection of welds or rivets after completion, with direct observation of a part of each operator's work while it is going on. In a practical sense, this degree of supervision is sufficient for safety, because the observed ability of the operators and the systematic examination of what they have done combine to prevent the existence of defects sufficient to constitute a hazard in the finished structure.

There is a widespread demand for a cheap, non-destructive and absolute method for testing or inspecting completed welds. This may come but is not available now. Its absence should not be used as an argument against the use of welding, because there is no such control available for checking any other method of construction. The idea that welding is more uncertain than riveting is frequently expressed by men accustomed to the older method and unfamiliar with the newer one; it is unfounded in fact, but is natural in view of the long time riveting has been accepted. Probably if the history had been reversed and riveting were now an innovation as compared with welding, rivets would be looked at askance, on account of the objectionable holes required in all members, on account of the complete invisibility of the shanks after driving, on account of the stretching of metal frequently involved in drifting holes, on account of localization of stresses, on account of the great and indeterminate inequality of loads carried by the rivets of a rivet group, and for other reasons.

What can a trained inspector find out about a weld after it has been made, without cutting it and without putting a load test upon it? He can find out whether it has been done uniformly with a steady hand, whether the surface is solid or porous, whether the weld metal has actually fused with the base metal at the exposed edges of the weld, and whether the metal has been burned. These points are sufficient to decide whether the operator's work has been good, indifferent or bad, and to reveal isolated defects which are serious enough to form a hazard. There are some notable exceptions to this proposition, mainly the following:—

(1) An idiosyncrasy of a welder may cause him to produce incomplete fusion at the bottom of a weld even though he finishes well at the surface; occasional observation of the men at work is essential to discover and correct such a tendency.

(2) Presence of paint on the surface to be welded, defective equipment or poor welding wire may cause defects confusing to the inspector; proper control of working conditions is the remedy for such things, not inspection.

(3) Thick welds which are built up in numerous layers cannot be adequately inspected after completion; such welds, where they must be used, should be inspected during the making.

The opinions, relative to effectiveness of procedure control, held by men who have studied this subject at first hand since long before welding was adapted to building and bridge corporation, are fairly unanimous and may be summed up as follows:

(1) The ability of an operator to make systematically reliable welds can be definitely ascertained; exceptional ability it not a practical necessity. (2) A qualified operator knows at all times whether the work he is doing is sound, barring special unfavorable conditions which can be recognized and should be avoided (as for example, welding in a place where the operator cannot clearly see his work or cannot hold his electrode in proper position). (3) A qualified inspector knows whether a weld is sound if he sees it being made; if he sees it only after completion, he can detect defective quality if bad enough to create a hazard, barring multiple-layer welds which need inspection while being made. These conclusions are not highly controversial;

they have great weight of concerted opinion behind them, as well as a background of many years of experience antedating the use of welding in large frame structures. To correct the fairly common impression that effective procedure control can be attained only by exceptionally high class organizations, it is pointed out that there are plenty of well trained operators and sufficient qualified inspectors to meet present demands, and that the welding schools maintained by Westinghouse and other large electric companies can greatly increase the supply of both.

Recognizing that the safety of welded construction can be assured by definite precautions which are already well established, the American Welding Society, through its Committee on Building Codes, has prepared a code setting forth procedure control and basis of design for welded steel buildings; working stresses and other fundamentals are substantially in agreement with the practice followed in the design and construction of the Sharon Building, Sharon, Pa., and more recent welded structures. This code is expected to be ready for publication in a few weeks, and may be adopted as it stands or with modifications by many municipalities. It will be fortunate if this code, coming from a national body concerned exclusively with welding, is generally adopted, because it is better to have uniform regulations in all localities than to have confusing differences in the laws of various cities. Further experience and additional test data will no doubt result in amendments to this code from time to time. It is indicative of remarkable unanimity of thought among engineers who have experimented and practiced independently of one another, that the committee has been able to agree on a code at such an early stage; only minor compromises having been necessary.

What is there to justify adopting welding in place of an older process which has adequately served the purpose of connecting the members of steel frames? The reason that interests the layman most is that the process is practically noiseless. This feature is behind most of the inquiries which are continually coming from business men's associations regarding the possibility of doing away with riveting during erection of buildings. The frequent agitation of this topic by newspapers reflects the general public's objection to the nerve racking pneumatic hammer. The noise consideration was responsible for the welding of the Homestead hotel addition at Hot Springs and the Haddon Hall power house at Atlantic City.

Among the technical engineering advantages of welded construction may be mentioned the great superiority of welded wind bracing, the stiffness of continuous beam construction, and the superior shock resisting properties of well designed welded joints.

Of special interest to architects are the remarkable compactness of welded joints, the reduction in depth of beams resulting from continuous construction, the simplicity of rod hangers without clevises or connecting angles for suspending balconies and mezzanines, and the adaptability of welding to constructing spandrels, lintels and masonry shelves without projecting angles or rivet heads.

All these considerations are minor as compared with that of economy. The question of the ultimate general replacement of riveting by welding hangs on the relative cost. It is beyond debate that for some special purposes welding is much more economical than riveting; there are cases where welding proves unmistakably cheaper, no matter how extravagantly or inefficiently it be used. These special cases serve merely to prove that structural shops ought to have welding equipment and personnel in addition to their equipment and organization for fabricating by the riveting method.

The major issue, which is highly controversial and about which any general agreement must wait on a great accumulation of evidence, is whether the welding method is generally cheaper than riveting. Experience thus far, interpreted with some

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The ARCHITECT'S VIEWPOINT

¶ *The Modern Influence on Los Angeles Buildings*

¶ *Some Civic Center Problems in California Cities*

¶ *Travel Valuable to Architectural Students*

CONTRIBUTING EDITORS

WILLIAM C. HAYS . . *San Francisco*

CARLETON M. WINSLOW . *Los Angeles*

HAROLD W. DOTY . . . *Portland, Ore.*

CHARLES H. ALDEN . . *Seattle, Wash.*

THE metropolitan character of Los Angeles grows apace. New buildings of the first class are springing up everywhere and adding appreciably to the city's dignity and individuality.

One notes with interest the influence of "modern art" which has touched to some extent all of the buildings projected within the last two years. Wilshire Boulevard is beginning to take on an aspect that promises magnificence and if the designers of its buildings continue their present inclinations to harmony and co-operation, the street will undoubtedly become one of the noteworthy ones of modern times.

It is already an avenue of much interest with its procession of hotels, apartment houses, churches, department stores and interesting small shops, with towers breaking the skyline and trees and flowers in more and more profusion as time goes on. It is becoming a fine expression of the metropolitan character of the city through which it threads its way.

* * *

THE problem of a Civic Center for the City of Los Angeles is a serious one. The placing of the new City Hall near the old Spanish Plaza had everything to recommend it from the standpoint of history and sentiment. Logically this nucleus of a Civic Center was placed in the locality of the city's past administrative activity. But the exact placing of the building was done apparently without regard to further development when additional buildings will be necessary to house the business of the city, county and State. The result of this bad placing will be a collection of public buildings more or less close together, with no correlation, dignity nor symmetry. The only saving of the situation is to appoint a new commission on the Civic Center, to carefully study the problem anew and take the best from all the schemes and projects so far submitted, and present a new one, which if found good, should be scrupulously followed and kept apart from prejudice and politics.

This is probably too Utopian even to be considered, but it does seem a pity that a city which will some day be one of the great cities of the world should not have an adequate expression of civic importance and individuality as well as a practically and economically planned locality for doing its business.

* * *

Spasmodic attempts to establish a Civic Center at San Diego to date have brought forth no apparent results, though the city in other ways is growing by leaps and bounds. The little plaza in front of the U. S. Grant Hotel is the only mark that the city has of civic expression and life. Of course such developments as a Civic Center are expensive if not arranged when a city is first laid out, and to the average taxpayer not important enough to warrant support at the polls.

The day will come at San Diego, however, when the necessity of a Civic Center will become imperative, both for aesthetic and practical reasons, and the cost will be enormous. However, that is the concern of a future generation of taxpayers, in the mind of the average citizen.

* * *

San Francisco acted more wisely and took advantage of its condition of devastation following the earthquake and fire to plan an adequate and dignified location for its Civic Center. That the general aspect of its buildings and planting is rather forlorn at the present time, does not belie its promises for the future.

Santa Barbara, in its simple, natural way, undoubtedly has the best Civic Center on the coast, but it has had its Municipal Plaza from its first days. To be sure, the city fathers of a couple of generations back unconsciously tried to ruin it by placing the City Hall and Fire Station in the middle of the open space, but the building was wretchedly planned and built, and went the way of all shoddy construction. The placing of the new City Hall was wisely done and with the old de la Guerra house at the upper side and the fine Daily News Building at the lower, this municipality has an adequate City Hall Square for all time to come.

Ultimately a new problem will arise, for the community is growing steadily and the Plaza is too small for the inclusion of additional buildings. Another center will have to be worked out, probably a development of the present County Courthouse Square. Santa Barbara has the knack of successfully solving her problems and undoubtedly will do it when the time comes.

* * *

SUMMER has come, (lots of rain notwithstanding) and the architect senses the thrill of Nature's spell, longs to forget for a while the work-a-day problems in which he is involved and, like Mole, to leave his architectural housekeeping behind for a time and push his way upward to the experience of lighter thoughts and the adventure of gladsome change.

Thoughts of travel are in the air, past journeys and future pilgrimages, and he wonders which gives the more pleasure to think about. Memories of the first thrill of the domes of St. Marks at sunset, while gliding down the Grand Canal from the railroad station, passing Hopkinson Smith with a gondola piled with luggage and a drawing board, are as clear today as twenty-five years ago; three days at a little inn in Mont Saint Michel, every succeeding hour adding to the realty of the wondrous place until the knightly monks of old days were almost materialized and met in cloister garth and narrow street-prowlings over dust heaps in Pompeian cellars; stormbound for three days in the Appenines at Cava dei Tuieni, watching Pan-like goat-herds drive their flocks through an arch under the hotel window.

This is the season when earnest students drop into the office and talk about their plans for travel, and you give them information about hotels and routes—information long since obsolete, for every traveler must work out and discover his own itinerary as he goes along, unless he chooses to descend to the mediocrity and drabness of the travel bureaus' commercialized program.

The value of travel to the architectural student cannot be over-emphasized, and especially should he take advantage of it when he is young, with his opinions, theories and ideals still in state of formation. He accumulates a deep-seated inspiration which stays with him all his life and influences his every architectural move.

As to the value of traveling alone or in groups, this is a personal matter to be decided by the individual. Some will find it expedient and delightful to go in pairs.

[Please turn to next page]

Group travel, such as the party made up of the architectural students of the University of Southern California and headed by its most worthy Dean, will be found instructive, enjoyable and economical. Traveling in trios is dangerous to equanimity of soul. Going alone is the most appealing to the mentally venturesome with the unexpected contacts with stranger-friends showing up at every turn.

Europe is the natural goal of the architectural student but the foreign atmosphere of French Canada, Cuba, Mexico and Central America is a close second in its influence. And to him who cannot finance a trip out of the States, an unvisited city in his own country offers much, if he loves novelty and enjoys the observation of things small as well as important.

Sketching material and camera are naturally with one wherever he goes and the former especially, is used at every turn. It really does not matter so much what and how one sketches and photographs, so long as he does these things. Many a valuable book for the architect has grown out of such resulting material. Austin Whittlesey's two books on Spain and Claude Fayette Bragdon's sketches published forty years ago, are the result of such pleasurable work. The little sketches in Guy Lowell's volumes on Italian farm houses and palaces are the best part of the books.

Happy is the young traveler who can sketch with facility but there is enjoyment and advantage for him to whom it is more difficult. After all, sketching is one of those things which, the more it is done, the easier it is, and the reward is great.

CARELTON MONROE WINSLOW, A. I. A.

EDITORIAL CHAT

THE American Institute of Architects has very wisely discontinued the publication of *The Journal* of the American Institute of Architects. We agree with *Architecture* that the Institute is too dignified a professional body to solicit or even to mention advertisements of any sort and as no magazine can exist through one issue without an ample supply of ads the *Journal* gave up the ghost and died a natural and painless death. Its place has been taken by *The Octagon*, a bulletin of the Institute, and a very interesting one at that. Frank Baldwin is in charge of the new publication which is dignified and serves its purpose.

* * *

THIS is a popular year for architectural exhibits on the Pacific Coast. It is a good sign and deserves encouragement. Seattle, Portland and Los Angeles have all made creditable showings, and now San Francisco is holding an exhibition under the Northern California Chapter's direction. It is the "Every-Two-Year-Honor Award Exhibition," and if the work shown is a criterion of what the Trans-bay architects are capable of doing, it must be admitted that there has been very great improvement in two years time. This applies not only to domestic architecture but to commercial work. It is the best brand San Francisco architects have developed in recent years. In Los Angeles a series of "one-man" exhibits are being held. This is both an experiment and a novelty, and at this writing these showings of individual architectural firms seem to be taking hold with the public and that means a great deal. Public interest in architectural effort has long been too indifferent.

* * *

SPEAKING at the recent annual meeting of the Royal Architectural Institute of Canada, J. P. Hynes, the retiring president, offered some sound advice to the architectural profession and especially urged them to realize the value of organizing themselves for the betterment of their own standing in the community and their relationship with the public. "We are architects," he said, "at the dawn of a new era in architecture. Already commercialism and materialism are undermining the architect and his art, and unless we are content to take a lesser place than that which traditionally belongs to the architect, it is necessary that we avail ourselves in full measure of the modern methods in organ-

ization." He explained that no matter how complete and efficient an organization may be in itself, something more is needed if the full possibilities of united effort are to be realized, viz., the loyal and earnest support of every member of the organization. For architects, Mr. Hynes indicated, this loyalty means that all must follow the highest professional practice with their clients and business associates, with their fellow architects and with the public. "In a word," he said, "they must be true to their art and profession if they are to be true to themselves."

* * *

WITH the progress that is being made all over the country in steel welding, unusual interest is being taken in the recent completion of the skeleton of the West's first field-welded steel-frame office structure in Los Angeles. The building is the new six-story addition to the Pacific Mutual Life Insurance Company home office at Sixth and Olive streets.

The electric arc welding method of assembling steel members in the field has been used in the construction of several buildings in eastern cities, as reported elsewhere in this issue, and the practice seems to be proving satisfactory.

How well the process worked out in the Pacific Mutual job is shown by the fact that no difficulties were encountered during erection of the entire steel frame, and welding was completed within a total elapsed time of 19 days.

Decision to use arc welding in this case was reached when it became evident that the noise coincident with riveting of the steel frame would be a serious disturbance to adjacent offices; for the new building was being reared in a space that had served as a light court, surrounded on three sides by offices.

The structure is of the ordinary column and beam type of construction, six stories in height. The columns are rolled "H" sections and the beams of the ordinary rolled "I" type.

For the most part, all loads are carried on brackets which were shop-riveted to the columns. The seat angles of these brackets were punched with two holes to facilitate erection and plumbing, and the bottom flanges of the beams in turn punched to match the seat angles. After erection and plumbing, the beams were arc-welded to the seat angles and the top flange of the beam secured to the column by welding on connections of various shapes to suit the varying conditions.

According to Milton Baruch of the Consolidated Steel Corporation, rigid inspection both during and following welding operations, failed to reveal any defects in the joints, and the results obtained were such that it seems certain that arc welding in the field has taken its place among the established practices in building construction.

The architects of the Pacific Mutual addition were John and Donald B. Parkinson and the structural engineer, Paul E. Jeffers, C. E.

WELDED STEEL CONSTRUCTION

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allowances for the handicaps suffered by the younger method in the hands of designers, foremen and workmen not thoroughly accustomed to it, has revealed strong reasons for believing that the welding method will gradually, but with increasing rapidity, displace riveting for most, if not all, types of steel frame construction.

THE ARCHITECT

I stood before the noble spires of Chartres,
And saw the triune portal offer there
A benediction to my weary heart—
Rest here awhile, and dream with me in prayer.
The cold gray stones seemed soft and smiling then,
They whispered, while I walked within their gloom,
A thousand years here have we sheltered men,
While their prayers in God's Garden burst in bloom.
There must be something God-like in the man
Who transformed here his rare soul into stone,—
The Architect whose dream was once the plan
On which he built this footstool of God's Throne.
And Dust, which through the ages made those stones,
May have been ground in Time's Mill from men's bones.

—*A. L. Weixel.*

WITH *the* ARCHITECTS

"ONE MAN" ARCHITECTURAL EXHIBITS

The architects of Southern California have started a series of "one man" exhibitions to be held in the Exhibit Rooms of the Architects' Building at Fifth and Figueroa streets, Los Angeles.

It is hoped that these exhibits, which are open to the public will stimulate a broader interest in architecture. They include only the best of the Southern California work.

The sixth of the series was that of Robert H. Orr and was held from June 1st to June 15th inclusive. His work has been mostly church and schools. Much of it has been shown from time to time in *The* ARCHITECT *and* ENGINEER.

The John C. Austin Exhibit is now under way and will continue to July 1st. The display includes many large buildings.

SPANISH-STYLE BUILDING

The Monterey Chamber of Commerce has moved to its new building on Munras Avenue, Monterey, establishing its headquarters in one of the most distinctive structures of this kind in the United States.

A white-walled, tile-roofed building, it is an attractive example of California Spanish architecture, faithful to this style in every detail. Along its front extends a broad portico, with rounded doorway; and the deep-set windows are sheltered by green wooden shutters. The entrance path and porch are paved with red tile.

The Monterey Chamber of Commerce building was designed by W. O. Raiguel, architect for the Del Monte Properties Company.

GARAGE AND APARTMENTS

H. C. Bauman, architect of San Francisco, has let the contract for a three-story Class B reinforced concrete garage to be built at Bellevue and Staten streets, Oakland, to Thebo-Starr and Anderton, at an approximate cost of $75,000. The owner is the Lakeview Building Corporation.

Mr. Bauman has recently completed plans for a six-story and basement reinforced concrete apartment house for J. W. Blackburn of Palo Alto. There will be 150 rooms. The estimated cost is $250,000.

EDOUARD F. CHAMPNEY

Edouard Frere Champney, 55, 2600 Ridge Road, Berkeley, in charge of the bureau of design for the Panama-Pacific Exposition, died June 4th. Mr. Champney was born in Ecouen, France. He was a graduate of Harvard in 1896 and of the Ecole des Beaux Arts, Paris. He figured prominently as an active designer for many expositions. He was connected with the supervising architect in Washington, for many years and was an associate of Arthur Brown Jr. in the designs for St. Mark's Cathedral in Seattle. He was the son of J. Wells Champney, a painter, and Elizabeth Cluny, a writer.

CLASS A BUILDING

Sommer and Kaufmann, Inc., San Francisco, have let the contract for their new building at 838 Market street, to the P. J. Walker Company. Albert F. Roller is the architect and H. J. Brunnier the structural engineer. The building will be either three or four stories, Class A and will have a battery of from three to five elevators.

Mr. Roller is also preparing sketches for a two-story frame and stucco Spanish residence for Dr. T. T. Shea of San Francisco. This dwelling will be erected on Santa Clara avenue and Portola Drive, Saint Francis Wood, and is estimated to cost $25,000.

SCHOLARSHIP AWARDS

The Department of Architecture, University of Washington, has made another annual award of two scholarships for foreign study and travel to students in the Department. The beneficiaries this year are Stanley Brogren, a senior, and Richard Lytel, junior. Both plan to remain abroad for about a year, Richard Lytel attending the summer session of the School at Fontainebleau.

The A. I. A. medal for general excellence in design was awarded this year to George Nakashima, a scholarship winner last year.

FOUR-ROOM SCHOOL

A. A. Cantin, architect, Flatiron building, San Francisco, is preparing plans for a four-room school in the Wishman District, Mountain View. It will be frame and stucco, and will cost $30,000.

IRVINE & EBBETTS BUSY

The architectural firm of Irvine and Ebbetts, San Francisco, are preparing plans for a two-story and basement frame and stucco apartment house to be located on the northeast corner of the State Highway and Flouribunda, San Mateo. The approximate cost is $60,000. F. A. Pierce of San Mateo is the owner and Buschke and Johnson of the same city are the contractors.

The same architects are preparing working drawings for two three-story and basement, frame and stucco Spanish type apartment houses for Ralph Spiegl, Hunter-Dulin building, San Francisco.

PORTLAND ARCHITECTURAL EXHIBIT

At the recent Oregon State Architectural Exhibit in Portland there were 229 architectural subjects represented and 43 crafts exhibiting. Among the architects showing work were: Jacobberger & Smith, Sutton & Whitney, Hollis E. Johnston, Roi L. Morin, A. E. Doyle & Associates, Thayne Logan, Folger Johnson, Jamieson Parker, Harold D. Marsh, Ernest F. Tucker, Lawrence, Holford, Allyn & Bean, W. G. Purcell, George H. Jones, Herman Brookman, Bennes & Herzog, Wade Pipes, Harold W. Doty, Morris H. Whitehouse & Associates and Carl Linde.

REINFORCED CONCRETE CONVENT

Plans are being prepared by H. A. Minton, architect of San Francisco, for a Class B reinforced concrete, five-story and basement convent to be located on Franklin street near Broadway, San Francisco, for the Archbishop of San Francisco Diocese. The building is to be known as the Saint Bridget's Convent and will contain thirty bedrooms, a chapel seating forty, community rooms, dining rooms and offices. The structure will cost $70,000.

$50,000 APARTMENT BUILDING

Plans are now being prepared by Messrs. Powers and Ahnden, San Francisco architects with offices at 605 Market street, for a three-story and basement frame and stucco Spanish type apartment house, to be erected on Retiro Way, between Casa Road and Alhambra Drive, San Francisco. The estimated cost is $50,000. Paul R. Frugoli is the owner.

SPANISH TYPE DWELLINGS

The Realty Syndicate of Oakland is planning to build six Spanish residences in the Smith Reserve, Oakland. Architects who have been selected to prepare the plans are W. E. Schirmer and Hamilton Murdock of Oakland and Clarence Tantau of San Francisco.

PERSONALS

Messrs. A. W. Stromwell and G. C. Kennedy have opened an office at 901 Beaux Arts Building, Los Angeles, and will engage in the general contracting business. Both Mr. Stromwell and Mr. Kennedy were formerly connected with W. Douglas Lee, architect.

Frank W. Hanna has been appointed chief engineer of the East Bay Municipal Utility District, Oakland, to succeed Arthur P. Davis, resigned. Mr. Hanna has been chief hydraulic and designing engineer for the district since 1924.

Gardner S. Williams of Ann Arbor, Mich., is chairman of the committee on legislation pertaining to the safety of dams appointed by President Arthur Berresford of the American Engineering Council. Other members of the committee are: L. F. Hazra, Chicago, Ill.; Charles G. Hyde, Berkeley, Calif.; W. P. Creager, Watertown, N. Y.; and W. S. Lee, Charlotte, N. C.

Noble Foster Hoggson, president Hoggson Brothers, Inc., architectural design and building construction, New York, has been appointed a member of the American Industrial Committee to Spain, to act in advisory capacity to the Barcelona International Exhibition and to study problems of Spanish-American trade.

Edwin Lewis Snyder announces the removal of his office from 2045 Shattuck avenue to 2102 Addison street, Berkeley.

Norman W. Kelch, secretary-manager of the Clay Products Institute of California is on an extended trip through the East in the interest of the clay products manufacturers of this state. After visiting Chicago, Detroit, Cleveland, Pittsburgh, Philadelphia, Washington, New York and Boston, Mr. Kelch will attend the annual meeting of the American Society for Testing Materials in Atlantic City.

In recognition of distinguished service in architecture and city planning and education, Carl F. Gould has been elected a member of the executive board of the American Civic Association, a national organization composed of public spirited men and women, with headquarters in Washington, D. C.

Theo. Buchinger and R. M. Thorne have opened offices in their new location, 434 Lumber Exchange, Seattle, Washington, under the firm name of Buchinger & Thorne, architects and engineers.

A. H. Albertson, on April 11, made an address before the Engineers Club, Seattle, on the subject of structural work, as applied to the tower type of construction.

INSTITUTE APPROVES

A strong recognition of the new system of grade marking lumber, as advocated by the National Committee on Wood Utilization for the protection of the consumer in specifying his lumber purchases, was voiced by the American Institute of Architects at its annual meeting held in Washington, D. C., April 25.

Commenting on the work of the National Committee on Wood Utilization in promoting the quality marking of every piece of lumber before it leaves the mill, and its work in behalf of the standardization of lumber of a definite moisture content, the resolution reads:

"The American Institute of Architects, through its structural service department, reiterates its stand in favor of the standardization of building materials and endorses the activities of the National Committee on Wood Utilization of the U. S. Department of Commerce in behalf of the grade marking of lumber produced in accordance with American lumber standards, and also its efforts to promote the manufacture and use of dry lumber."

SEATTLE Y. M. C. A. BUILDINGS

Four Y. M. C. A. buildings for Seattle costing $1,000,000, or more, are announced by the Metropolitan board of directors as follows: Central building, Fourth avenue and Marion street, A. H. Albertson and associates; University building, East 50th and 12th avenue Northeast, A. N. Allen; Queen Anne Community building, Queen Anne avenue and Lee street, Henry E. Hodgson, and West Seattle Community building, 39th avenue Southwest and Fauntleroy street, Arthur L. Loveless.

SACRAMENTO BOY HONORED

Charles St. George Cope, son of Mr. and Mrs. Charles Stockton Cope of Sacramento, has been awarded the Ropch architectural scholarship, which includes $2000 in cash and a trip to Europe.

Young Cope is a native of California, and studied at Stanford for two and a half years, later completing his architectural training at the Boston Institute of Technology, where he graduated with the class of 1927.

DORMITORY FOR MILLS COLLEGE

W. H. Ratcliff, Jr., architect of Berkeley, recently completed plans for a two-story dormitory to be erected at the intersection of Olney Meadows and Orchard Junction, Oakland, for Mills College. The estimated cost is $55,000.

ARCHITECTS EXHIBIT WORK

Among the Washington State Architects who exhibited work during the past month at the Metropolitan Builders Exhibit, Seattle, were Charles H. Alden, house at Hollywood, Cal.; Harry H. James, two apartment buildings; Edwin J. Ivey, residence; William J. Jones, stores and homes; R. C. Stanley, the Nelsonian apartments; E. T. Osborne, apartment building; O. F. Nelson, the Gowman coffee shop interior, a bungalow court, and a loft building; Bebb & Gould, the new Rainier Club addition; R. M. Thorne, St. Luke's church; Baker, Vogel & Roush, churches; Isaac L. Wright, Mount Pleasant Public Library; Stoddard & Son, residence; Arthur L. Loveless, his own Lake Washington home; J. C. Stanley, a doorway, and J. Lister Holmes, the Lammers residence.

URGES OVERHEAD CROSSINGS

Bert B. Meek, state director of public works, has requested the State Railroad Commission to approve plans for twenty overhead crossings and subways in the state highway system and asking that the railroad companies affected be ordered to pay a percentage of the costs. Meek proposes to build all of these grade separations within the forthcoming biennial period. The estimated cost of these projects is in excess of $2,000,000. The extent of the railroad's participation is to be determined by the commission.

NEW REGIONAL DIRECTOR

The term of A. H. Albertson as Regional Director having expired with ineligibility for re-election, the recent A. I. A. Convention selected as his successor Fred Fielding Willson of Bozeman, Montana. Mr. Willson is a former president of the Montana Chapter and well known for his professional attainments and active connection with Institute affairs.

22-STORY SEATTLE BUILDING

Sherwood D. Ford, architect of Seattle, has announced that plans for the 22-story Washington Athletic Club structure in that city are progressing toward completion. The structure will involve a cost of $1,000,000, and is the product of a careful study of many like buildings.

SEATTLE PHONE BUILDING

Announcement is made of a new telephone building in Seattle. It is stated that a 36-story tower similar to the San Francisco telephone building will be built on the southwest corner of 3rd avenue and Madison street, Seattle.

ELEVATION, WAR MEMORIAL CHAPEL, LE BRUN COMPETITION
Robert Field, Del.

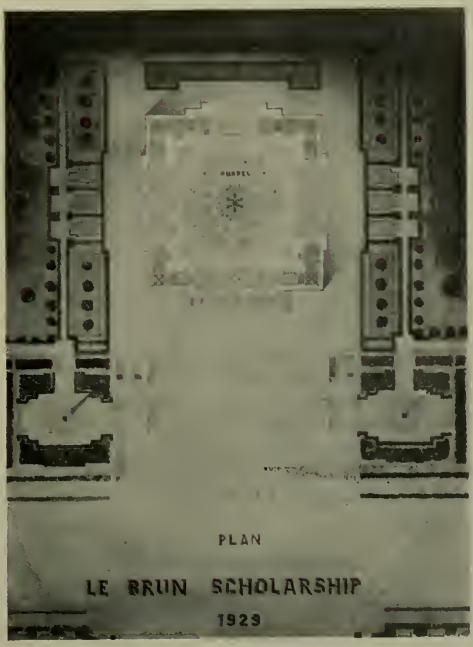
LE BRUN DRAWINGS

The Le Brun drawings shown herewith are the work of Robert Field, of John and Donald B. Parkinson's office, Los Angeles.

The 1929 competition was the design of a War Memorial Chapel, seating between 800 and 1000 people. Mr. Field's drawings are of a monumental character rather than religious and are pleasing because of the simplicity in mass elevation and plan. The design of the building is based on the classic with enrichment and details of a modern character. The elevation being restrained and dignified is offset by the interior which is treated in a manner showing more freedom and warmth.

Mr. Field's patron for the competition was Jess Stanton. Mr. Field is also indebted to Donald B. Parkinson whose suggestions were invaluable.

Mr. Field's competition experience has been entirely confined to the vicinity of Los Angeles during the past nine years, working in the offices of Marston & Van Pelt, Gilbert Stanley Underwood and John and Donald B. Parkinson. Mr. Field plans to go east in the spring of 1930, work in New York for a year, then travel abroad.



PRAISE FOR MR. JOHNSON

[From Washington State Architect]

The ARCHITECT *and* ENGINEER for April contains an excellent article on "The Work of Reginald D. Johnson, F. A. I. A.," by Elmer Grey, the illustrations being worthy of study, particularly the placing of the buildings in reference to old trees and water.

There is a harmony of setting and design, very lovely. The homes look as if they grew rather than that they were erected by man.

$1,000,000 THEATER

Preliminary plans have been prepared by Messrs. Louis P. Millar and Edward A. Hayes, 595 E. Green street, Pasadena, for a group of buildings, including a large theater, banquet halls, shops and recreation center, at Alhambra, California, for Biarritz, Inc., Alhambra. The cost of the group is estimated at $1,000,000.

SAN FRANCISCO HIGH SCHOOL

Miller and Pflueger, architects of San Francisco, have been commissioned to prepare plans for a school building to cost $1,000,000. It will be known as the George Washington High School and will occupy a site on Geary street, between 30th and 32nd avenues. Eventually there will be four units.

CHURCH BUILDING

Plans are being prepared by Messrs. Shea and Shea, 454 Montgomery street, San Francisco, for a basilica of Saint Anne of the Sunset on Funston avenue and Judah street, San Francisco, costing $500,000, for the Roman Catholic Archbishop of San Francisco.

FACTORY BUILDING

The Simon Manufacturing Company is building a three-story factory on Yosemite street, San Francisco, costing $120,000. The engineer is W. W. Hanscom, 848 Clayton street, San Francisco, and the contract has been awarded to Barrett & Hilp.

SIX-STORY APARTMENT BUILDING

A six-story Class C reinforced concrete apartment building in Oakland is to be built by the Cook Engineering and Construction Company, from plans by Douglas Dacre Stone, architect, Great Western Power building, Oakland.

COMPETITIONS

SMALL-HOUSE COMPETITION

Further details are shortly to appear regarding an elaborate competition for small-house designs, to be held in twelve regional districts, with a final stage in which the winning designs of these districts will be judged for national prizes. Raymond Hood is chairman of the National Committee of Arrangements and of the Jury of Award. C. Stanley Taylor, of New York, is the advisor in the development of the programme and the operation of the national and local competition. The prizes reach a grand total of $27,500. Two types of dwellings are to be studied:

Class A. 6 principal rooms, including at least 3 bedrooms, 1 bathroom, and lavatory.

Class B. 7 principal rooms, including at least 4 bedrooms, 2 bathrooms, and lavatory.

Each of the above types will be given a cubic-foot limitation.

COMPETITION FOR STEEL HOUSE

An architectural competition for the design of a structural steel frame house is being conducted by the Connecticut Architectural League, Inc., in co-operation with the American Institute of Steel Construction, Inc.

Professor Edwin Avery Park of the Yale School of Fine Arts of New Haven will be professorial advisor and to him all drawings are to be addressed.

The jury consists of Charles Wellington Walker, architect, Bridgeport; Alfred W. Boylen, architect, New Haven; E. N. Adams, district engineer for the American Institute of Steel Construction, Inc., Worcester, Mass.

BRICK HOUSE COMPETITION

Prizes aggregating $2,500 will be awarded the winners in the second common brick school competition announced by the Common Brick Manufacturers' Association to close November 5, 1929. This competition is along the same lines as that of last year.

Photographs of the school buildings as they stand today, together with their floor plans, are all that are required. No other drawings are necessary. The competition is only for school buildings already erected, but 75 per cent of their exterior walls must be surfaced with common brick. Requests for the program should be addressed to the Common Brick Manufacturers' Association, 2121 Guarantee Title Building, Cleveland, Ohio.

PASSING OF C. E. GOTTSCHALK

Charles E. Gottschalk, one of the early day architects of San Francisco, at one time associated with the late William Curlett, pioneer member of the profession in California, died after a somewhat protracted illness in San Francisco on May 14th. Mr. Gottschalk, though of a retiring disposition, nevertheless enjoyed the warm friendship of not a few acquaintances and he was loved and respected by those with whom he came in contact. He was a native of San Francisco and began his architectural practice in Los Angeles when that city was in its swaddling clothes. Mr. Gottschalk was sixty-five. For a time he practiced in Galesburg, Illinois, and later, returning to San Francisco, he entered the employ of William Curlett, after whose death he formed a partnership with his son, Alec. Curlett, which continued for some time following the earthquake and fire of 1906. During that period the firm designed such prominent buildings as the Phelan, Shreve and Howard buildings, the country house of former Senator James D. Phelan at Saratoga, and other residences. In 1925 Mr. Gottschalk took as a partner, Martin J. Rist, at that time associated with Carl Werner. During the succeeding years the firm of Gottschalk and Rist has been eminently successful as the many well designed buildings done under their handling, fully attest.

ENGINEERING COURSE

The Engineering Extension Division of The Pennsylvania State College is now offering a complete course in Strength of Materials to be given by correspondence. This work teaches the student how to determine the size of timber, iron, steel, or concrete that must be employed in various locations; it may be a column in a building, a post in a bridge, the thickness of steel required to safely bear the pressure in a standpipe or a boiler, the leg of a tower, the size of the piston rod in an engine, the diameter of a shaft in a machine or any one of the many similar questions that arise in modern engineering.

SACRAMENTO BANK BUILDINGS

O'Brien and Peugh, 315 Montgomery street, San Francisco, are the architects of two bank and store buildings consisting of two stories each, planned for Sacramento at $100,000 each. The owner is the Lurie Company of San Francisco. Industrial Construction Company of San Francisco will have charge of construction.

LE BRUN SCHOLARSHIP

Emile F. C. Backstrom, a New York student of architecture, was announced the winner of the Le Brun Scholarship of $1,400 which was founded in 1911 by Pierre Le Brun. Twenty-five students took part in the competition.

Twenty-five sets of drawings were submitted in the Le Brun Scholarship competition by the contestants, most of whom made a very creditable showing.

The Jury consisted of:—

D. Evereett Waid, H. Van Buren Magonigle, Louis Ayres, Oliver Reagan, and Otto R. Eggers.

The prize was awarded to Emile F. C. Backstrom of New York City; 1st mention to U. Floyd Rible, Philadelphia; 2nd mention to David T. Jones, Philadelphia; 3rd mention to Martin Luther Beck, Princeton; 4th mention to Anthony Thormin, Cleveland.

The Le Brun Scholarship was founded in 1911, by Pierre Le Brun, who beside other great works designed the Metropolitan Tower. Competitions for the prize now take place each year and the winner is enabled to spend at least six months abroad for the study of architecture. The stipend is $1,400.00.

The competition is held under the direction of the New York Chapter of the American Institute of Architects. Each contestant must be a citizen of the United States between the ages of 23 and 30 and must be vouched for by a member of the Institute as to his qualifications and fitness.

STEEL ORDERS IMPROVING

New orders of fabricated structural steel in April as reported to the Department of Commerce by the principal manufacturers were 88 per cent of capacity, based on total orders of 272,838 tons reported by fabricators with a capacity of 308,695 tons per month, as against March orders of 93 per cent of capacity and 61 per cent a year ago. Shipments of fabricated structural steel in April represented 79 per cent of the capacity of firms reporting this item as against 72 per cent in March and 62 per cent a year ago.

NEW CIVIC BUILDINGS

Plans are being prepared by Edwards and Schary of San Francisco for a city hall, library, police station and firehouse at Redwood City, California, to cost $65,000.

The above architectural firm has also been commissioned to prepare plans for a new grammar school building at Pescadero, California, to cost $10,000.

SOCIETY *and* CLUB MEETINGS

NORTHERN CALIFORNIA CHAPTER

The regular meeting of the Northern California Chapter, A. I. A., was held at the Engineer's Club on May 28 at 6:30 p.m. The meeting was called to order by President Harris Allen.

The following members were present:

MORRIS M. BRUCE	RALPH WYCKOFF
JOHN B. McCOOL	A. McF. McSWEENEY
MARK T. JORGENSEN	JAMES T. NARBETT
ERNEST E. WEIHE	BIRGE M. CLARK
WILLIAM I. GARREN	JOHN BAKEWELL, JR.
ERNEST L. NORBERG	HENRY H. GUTTERSON
HARRY M. MICHELSEN	CHESTER H. MILLER
CHARLES F. MAURY	W. H. CRIM, JR.
JOHN H. CHRISTIE	G. F. ASHLEY
LEWIS P. HOBART	ALBERT J. EVERS
WILLIAM C. HAYS	HARRIS ALLEN
WM. CLEMENT AMBROSE	JAMES H. MITCHELL

Guests present were: Messrs. Engle, Slaker, Grant, Hayes, Clark, White, Solon.

Mr. Gutterson reported on the Honor Award Exhibit, and spoke of the enthusiasm with which architects responded in submitting material.

Mr. Michelsen of the Industrial Relations Committee outlined suggested plans for closer contact with manufacturing concerns, by educational trips to manufacturing plants, and explained the purpose of the questionnaire submitted to the architects to obtain their reaction to this program.

Delegates who attended the A. I. A. convention in Washington voiced their impressions, and spoke of various activities which were outstanding features of the gathering.

William C. Hays told of the deliberations and meetings relative to the development of the Capitol grounds as outlined by him in THE ARCHITECT AND ENGINEER for May. He offered the following resolution for consideration:

"The American Institute of Architects expresses its appreciation of the progress being made in the architectural development of the city of Washington, as recently announced by the President of the United States, the Secretary of the Treasury and others responsible for the inception, design and execution of this great work. The Chapter's congratulations are hereby offered and its support pledged.

"The Chapter sees a most critical problem in the potential dis-harmonies that may develop on the north side of Pennsylvania Avenue, facing the new Federal buildings, if present individual property holdings are built up with no more check than is provided by current building restrictions.

"The right of the individual owner to normal profit is undisputed, but it may be maintained that the people are parties in interest, with just claim to share in those increases in values, financial as well as artistic, which the Federal improvements alone create.

"THIS CHAPTER BELIEVES, therefore, that the Government should have made, immediately, special studies by experts in the major phases involved, to find a method whereby all individual holdings, in each "city block," may be coordinated into unbroken units with all irregularities of "frontages" eliminated, and all such "units" developed, while suitably for their purposes, yet in a scheme of ensemble; that building heights affected should be determined in relation to uniform horizontal lines, nowhere higher than the corresponding Federal buildings across the street; that a basis system of "sight lines" might be established, in relation to street widths, below which to confine the heights of any necessary projections above the roofs.

"The present problems are, first, of investigation and, second, of organization, in both of which the Arts of Design may well continue to be called upon, from the beginning, for cooperation and aid."

The resolution was unanimously carried, with the recommendation that it be referred to the Southern California Chapter for similar action. It was further moved and carried that a copy of this resolution be forwarded to the President of the American Institute of Architects, the President of the United States, the Secretary of the Treasury, Senator Reed Smoot, Chairman of the Public Buildings Commission, Hon. Richard N. Elliott, Chairman of the Committee on Public Buildings and Grounds, Colonel U. S. Grant III, to the Senators and Congressmen from California, Edwin H. Bennett, Bureau of Architecture, Treasury Department, Washington, and Milton B. Medary, Otis Building, Philadelphia.

John Bakewell told of plans for a new building for the Institute headquarters, and of the financial response which is being made by the different chapters. He urged that the Northern California Chapter take its part in this matter, and was appointed by President Allen to formulate ways and means for its accomplishment.

Mr. Grant of the San Francisco *Chronicle* outlined the plan of that paper to include in its publication a weekly architects page, under the supervision of the Chapter. The scheme was heartily approved, and the matter was referred to the Directors for development.

H. M. Engle, of the Board of Fire Underwriters of the Pacific, spoke on various phases of earthquake resisting construction in this country, and of the latest methods advanced in such earthquake centers as Japan and Italy. These, if generally put into practice, would greatly eliminate the danger, and the higher initial cost would eventually be equalized by lower insurance rates, with the likelihood of only slight damage from earth shocks.

Lewis P. Hobart, who attended the convention as a delegate, put on several movie reels which he had taken about Washington, New York, and Chicago. Especially interesting features included the Capitol buildings, Washington Cathedral and Eastern University buildings.

L. A. ARCHITECTURAL CLUB

The program for the May 21st meeting of the Los Angeles Architectural Club was presented by the Los Angeles Gas & Electric Corporation. During the dinner the members were entertained by the sixteen-piece service orchestra, followed by vocal selections by A. V. Lagomarsino, tenor.

The club was welcomed by Addison Day, president of the corporation, who stated that it was his desire at all times to be of service to the architectural profession of Southern California, and that he was most happy to be present. W. M. Henderson, of the Los Angeles Gas & Electric Corporation, was the principal speaker, his subject being, "Gas Service in Construction Plan." He explained the importance of proper gas installation in the home and in the commercial building, stating that in order to get the proper installation it was necessary for the architect to study the gas layout as he studies the floor plans of a building.

A very interesting motion picture entitled, "The Benefactor," which depicted the life of Thomas A. Edison, was shown through the courtesy of the General Electric Company. The development of his great inventions, including the incandescent lamp, were shown.

President Hales, who conducted the meeting announced that the Atelier will again be affiliated with the club, with classes to be held in the fall. He also announced that the June meeting would be held at the Paris Inn and that after dinner the meeting would adjourn to the twenty-fifth floor of the City Hall.

WASHINGTON STATE CHAPTER

The regular monthly meeting for May of Washington State Chapter, A. I. A., was held at the College Club, Seattle, Thursday, May 2.

Committee reports being called for, Publicity was the first that produced any material response, Chairman Vogel describing, with his usual dynamic personality, what had been accomplished since the last meeting. In addition to the ads in the *Seattle Post-Intelligencer*, ads are now appearing in the *Seattle Journal of Commerce* every Wednesday morning, this paper also publishing news articles which had been furnished them. The small house material continues to appear in the *Post-Intelligencer*.

There being no further business, Mr. Gould was introduced as the speaker selected to present an illustrated talk on the development of the city of Washington. Mr. Gould suggested that inasmuch as the apparatus necessary to make his illustrations visible to the audience was lacking, it might be well for him not to attempt their presentation but to have the meeting conclude with the memory of the stimulating addresses of Messrs. Thomas and Vogel still in the minds of the audience. Acting on this suggestion, it was voted to defer Mr. Gould's talk to some future date, possibly the next meeting, when a more conclusive effort might be made to produce the accessories necessary for an effective presentation. The motion prevailed and the meeting adjourned.

PASADENA ARCHITECTURAL CLUB

About sixty members and guests were present at the second annual banquet of the Pasadena Architectural club held at the Pasadena Athletic club Friday evening, May 10th.

The entertainment committee provided a large and varied form of entertainment in the form of speeches and vocal selections which were rendered by several of the club members.

Gene Brook and Mary Barth of the Collenette School of Dancing presented several splendid dancing numbers. They were accompanied by Genevieve Wiley.

Reports were given by Roy Parkes, president; Richard Ware, secretary; Wm. S. Buyers, treasurer; Wm. J. Stone, publicity; and O. F. Stone, education.

This was followed by the installation of the new officers, as follows:

Robert Stanton, President; Harry A. Schoeppe, Vice President; Richard Ware, Secretary; Mark Ellsworth, Treasurer. O. F. Stone, Wm. S. Buyers, and J. R. Jarvis were elected members of the Executive Committee.

WASHINGTON STATE SOCIETY

The April meeting of the Washington State Society of Architects was held at the Gowman Hotel, Seattle.

Major S. E. Hutton, of the Pacific Coast Cement Company, was the speaker of the evening. The Metropolitan Builders' Exhibit was discussed at some length.

TO HANDLE SKYLIGHTS

Gunn, Carle and Co., San Francisco, announce that they have been appointed factory representatives and distributors of "Steelead Skylights," in the territory comprising Northern California.

SOCIETY OF ARCHITECTS

A regular business meeting of the Society of Architects of Alameda County was held May 6th at the Athens Athletic Club, Oakland.

Present were Messrs. Schirmer, Dakin, Foulkes, Allen, Donovan, Miller, Roeth, Bangs, Whitton, Corlett, Reimers and Williams.

The Society discussed the Home Modernizing Bureau. A motion was duly made and seconded to endorse the idea.

Mr. Foulkes addressed the meeting on the possibilities of inaugurating a City Ordinance requiring plans filed with the City Building Department to be executed by an architect.

Mr. Foulkes had written to other cities where such an ordinance is in effect, and read some of the replies. The State of Illinois has a drastic law of this kind. Every building costing over $75.00, within the corporate limits, must be designed by an architect.

During the general discussion it was suggested that the Society include classes A, B, and C, in the new ordinance, if it is possible to put it over; also the possibility of applying it to frame buildings.

The voting of bonds for the major street plan and sewers was endorsed by the Society, and the committee was so notified by the secretary at 425 Central Bank Building.

LOS ANGELES ARCHITECTS BUSY

Plans have been completed by G. Stanley Wilson, of Riverside, for a five-story Class A addition to the Mission Inn at Riverside costing $750,000.

A four-story addition amounting to $300,000 is to be made to the main building of the Automobile Club of Southern California and a three-story garage is also included. The Club is located on West Adams and Figueroa streets, Los Angeles and Roland E. Coate, 701 Architects' building, Los Angeles, has been commissioned to prepare the plans.

Working drawings are being prepared by C. C. Frye, 1510 North Kenmore avenue, Los Angeles, for a nine-story reinforced concrete apartment building at Hayworth avenue, south of Sunset Boulevard, Los Angeles, for Buck Jones. The cost will be $400,000.

A new $350,000 college building is to be built on Beverly Boulevard and Stone Canyon Drive, Westwood, California, for the Marymount College, 814 West 28th street, Los Angeles. Preliminary plans are being prepared by P. P. Lewis, 1905 Wilshire Boulevard, Beverly Hills.

TOWNHOUSE APARTMENTS, LOS ANGELES

This picture was inadvertently omitted and another building was shown in connection with Mr. Weir's article on Electric Heating in the May issue. The Townhouse Apartments are equipped throughout with Weir Electric Heaters.

Preliminary plans are being prepared by Claud Beelman, 1019 Union Bank building, Los Angeles, for a thirteen-story Class A store and loft building on the northwest corner of 9th street and Broadway, Los Angeles. The owner is the Eastern Outfitting Company and it is estimated the building will cost $1,250,000.

New work in the office of C. H. Russell, 1106 Story building, Los Angeles, includes a six-story Class A hotel building at Taft, California, to cost $300,000.

A twelve-story reinforced concrete aviation building is to be erected on 33rd street, Los Angeles, for the El Travia Industrial Terminal Corporation of Los Angeles. The engineer is O. R. Angelillo, 6600 Lexington avenue, Los Angeles.

The architectural firm of Webber and Spaulding, 627 South Carondelet street, Los Angeles, has been commissioned to prepare plans for a two-story dormitory building to be located at Claremont, California. The Pomona College is the owner.

BAYWOOD RESIDENCE APARTMENTS

E. L. Norberg, architect of San Francisco, is preparing plans for fourteen apartments to be located in Baywood, San Mateo. The building will be four stories, frame and stucco, and Italian type.

BARS OUTSIDE CONTRACTORS

A new contract problem faces the San Francisco Board of Works as a result of the ruling by Acting City Attorney Dion Holm that that body has the right to refuse contracts where outside interests would be employed.

The board was notified as to the contract for additions to Balboa High School, that a subcontractor had in turn sublet sash and door making to the Pacific Sash & Door Company of Los Angeles.

The southern company had already forwarded the sash and doors to San Francisco, which complicates the problem. The board ordered C. H. Sawyer, superintendent of the Bureau of Architecture, to investigate.

It was likewise reported on contract for work on Roosevelt Junior High School a subcontract for plumbing fixtures had been given Crane Company, an eastern concern.

The board therefore faces the question of giving preference to California concerns where there are no local ones of the nature concerned.

ENTERS ROOFING FIELD

Entrance of the Genfire Steel Company of Youngstown, Ohio, into the steeldeck roofing field has been announced by officers of the company. G. L. Rees has been named as manager of the new department, and a catalog showing the company's products in this field is being issued.

THREE APARTMENT HOUSES

Plans have been prepared for three apartment houses by Clay N. Burrell, Oakland. One of Spanish design is to be located on East 21st street, Oakland, and will cost $75,000; one on Excelsior, near Park Boulevard, to cost $75,000 and a third in Berkeley to cost $80,000.

$25,000 ENGLISH HOME

Frederick H. Reimers, architect with offices in the Franklin building, Oakland, has recently finished plans for a two-story nine-room English type residence, costing $25,000, to be built in Piedmont for Chaffee Hall.

GOLD MEDAL WINNER

The gold medal of the American Institute of Architects for distinguished achievements in architecture was presented to Milton Bennett Medary at the Corcoran Gallery of Arts in Washington, D. C., April 23.

COMPETITION PLANS ON EXHIBITION

The National *House Beautiful* Competition traveling exhibition for 1929 will have its first western showing in the Exhibit Rooms of the Architects Building, Los Angeles, the first two weeks in July.

Southern California is particularly interested in this exhibition for two first prizes and five honorable awards were won by local men. It is destined to be the most successful showing for years.

Progress in architecture is the keynote of the exhibit, and national interest in the *House Beautiful* Competition developes yearly. Following is a list of the prize winners and honorable awards: First prize (5 to 7 room house) H. Roy Kelley, residence for Dr. Walter C. S. Koebig; First prize (8 to 12 room house) Gordon Kaufmann, residence for Martin S. Mitau, Atherton; first in highly commended list, A. C. Zimmerman; honorable mention, David J. Witmer, Loyal W. Watson, Albert J. Schroeder and Donald D. MacMurray.

STOCKS GAMBLING RETARDS BUILDING

Abnormal speculative value of money in stock gambling removes from the investment field funds which would ordinarily be available for construction. A statement issued by the Common Brick Manufacturers' Association of America declares the abnormal money rates prevent building from keeping pace with the increase in population in big construction centers. The statement says:

"The number of brick plants closed down at the present time is larger than at any time during the winter, and exceeds by about 25 per cent the number that were inactive at this time last year. The brick moved from the yards last month was less, and there is a decided drop in the orders on the books as compared with a year ago."

TERRA COTTA FOR TOWER

Gladding, McBean & Company are completing the manufacture at their Auburn plant of the terra cotta for the new Shopping Tower, a 12-story structure now under way at Third and Pine streets, Seattle. The entire facing of this building will be terra cotta, cream enamel finish dotted with small black specks.

SOLDIERS' HOME AT SAWTELLE

Plans have been completed for a Class A barracks building for the National Home for Disabled Veteran Soldiers at Sawtelle, California. The architects are Walker & Eisen, Western Pacific building, Los Angeles.

WHY DO CONTRACTORS FAIL?

By E. W. Bush *

THE fact has been mentioned that bankrupt contractors never read papers at contractors' meetings on why they failed and the surety companies are the best sources of information on the subject. Whenever the claim department of a surety company is called into a contract bond case because of trouble or threatened default of the contract, it is apt to make a pretty thorough investigation to learn the best course to follow in handling the case. The claim department adjusters soon become expert in recognizing certain causes of failure as these same causes are coming up week after week and year after year in their handling of contract bond claim cases.

Some of these causes are inherent to the location, kind of work and conditions surrounding the job, and should be allowed for in preparing the bid estimates, but other causes can be nullified if the contractor will recognize the fact that they are always working against him, as well as every other contractor doing construction work.

It might be said that failing to obtain a price large enough is the principal cause of default and in some claim cases it is soon apparent in the investigation that the price was too low, but we will assume in this discussion that the bid was adnormally out of line with that of other bidders. Now and then a contractor will make a mistake in his cost estimate that is not realized until he compared his bid with that of others. The author knows of a contractor who omitted all the brick in a brick building, another who made a mistake of $100,000 in totalling his bid and a third one who left out one sheet of eight on which his cost estimate was figured and thus omitted $115,000 from his $700,000 bid.

In passing, it may be of interest to say that any contractor has a right to withdraw his bid at any time before it is formally accepted if he has made an error because up to the time of acceptance no consideration has been extended to him by the owner. This right of withdrawal is contingent on the owner reserving in the call for bids the right to reject any and all bids. As long as the owner reserves this right, the bidder who makes a "free tender" also has the right to withdraw it. This right remains with the bidder irrespective of what the engineer or architect writes into the instructions to bidders, as all the court decisions are believed to be in favor of the contractor on this right to withdraw. When the bid is withdrawn the certified check, of course, comes with it.

Probably most of the experienced underwriters and claim men of the sureties if asked for the principal cause of default, will promptly say "over-extension." This means taking on more work than is warranted by the contractor's past experience, ability, plant, organization and financial strength. The contractor who discounts his bills gets the lowest prices and the quickest deliveries. If he closely supervises his work and keeps a good check-up on how costs are running, he is able to keep his costs at a minimum and profits at a maximum. When he is over-extended and a part of his work happens to go a little "sour" he may spend a considerable portion of his time financing $200,000 worth of work than they can in doing $400,000 of it, although there seems to be only a comparatively few who realize this point. Working with the information in the contractor's files of a surety company affords a splendid opportunity to study success and failures in the construction industry. A comparison of financial statements tells when the contractor is making or losing money, and as previously stated, about every underwriter will at once say that over-extension is the principal cause of defaults.

Bad investments outside of the contractor's business is the cause of many defaults. Most contractors have obtained their business training in construction work and frequently lack any financial experience to guide them in the investment of surplus funds. They buy stocks in petty local concerns, form partnerships to go into the sales of automobiles and what not, and in many ways tie up their earnings, so little if anything can be raised on them when a financial corner must be turned. The author recalls one contractor pre-eminent in his line, who, after having done the large volume of work performed by him, and mostly at his own figure, should have had $800,000 to $900,000 in his strong box. He had made it, but all except a few thousands had gone into mines and other speculative ventures.

Another contractor is recalled who is also pre-eminent and has had a large and successful experience and who shows in his statement a list of high grade securities totalling over $1,250,000, and purchased after consultation with his bank. It is of greatest importance to the young contractor to wisely invest his first few surplus thousands and form the habit of buying something his bank will accept as collateral and thus make his surplus available if needed. A review of a large number of contractor's financial statements will show that only here and there is one who is as good a financier as he is a contractor. Notwithstanding the "ads" of the real estate people, real estate is not a good investment for a contractor.

*Engineer, Aetna Casualty and Surety Co., Hartford, Conn., in the Builders Bulletin.

It ties up his surplus where it cannot be made to work for him when he may need it.

Increase in labor costs or decrease in labor efficiency, also failure to obtain materials and supplies as expected and for the cost estimated, have put many contractors in trouble. The contractor who takes work in a new location is always more subject to these hazards than the local man and frequently underbids the latter because he under-estimates the cost of doing the work. If a sand or gravel bank or stone quarry fails to produce the quality specified, the engineer is sorry, but the contractor is the one who pays the excess cost.

Inability to consummate the financial arrangements planned when the work was taken has been the cause of stopping some contractors. This is really a subcause under "over-extension," but at times a contractor makes plans which will carry him through, provided other parties do as they agree, and if they fail the contractor is in a bad position. It takes skill and experience to finance a job as well as construct it.

The default of sub-contractors is a contributing cause to many failures unless they are bonded. Also if the sub is able to successfully claim extras from the main contractor without the latter passing them on to the owner, these come out of the profits and generally because the contract with the sub was not properly drawn to protect the main contractor's interest. Some contractors are very careless in setting up a contract with a friend and overlook the fact that when one of the parties starts losing money the friendship may be stretched to the breaking point. A case comes to mind where a $700,000 sub-contract is now being completed on which the sub will probably lose about $200,000 because about all the things they agreed upon verbally before signing were left out of the document they executed.

Bad weather, the high cost of educating inspectors and assistant engineers, floods, unknown subterranean conditions, etc., have kept the contractor from his profit on many jobs. No one can see very far into the earth or under water, nor can the future weather be determined.

Contingent liabilities or obligations arising outside of the contractor's business have put many of them in trouble. To illustrate: A building contractor who was the best one in his home city of 30,000, built a fine, large, two-story garage and then endorsed a note to help start a new organized concern that would occupy it. Finally he owned the concern, but knew more about building garages than selling automobiles, with the result that he lost his equity in the garage as well as the auto business, and now is without any bank standing.

Failure of the contractor to supervise his contracts which were located at some distance was the cause of a sizeable surety loss. The volume of work was not excessive for his resources and the contractor was fully experienced and had always made money to this time. He kept his estimator figuring new jobs instead of costs on the work on hand, and when about eighty per cent completed on $500,000 worth of work, discovered that he needed payroll money which was not available. Many contractors appear unable to say, "No, thank you" to architects when asked to figure his payrolls and explaining to his material men why he will soon have funds to pay their bills, etc., and his work will suffer. Even if a large part of the work is sublet to others, it takes a good man to keep the subs working in harmony and up to the mark.

Many contractors can make more money doing work which they are not in a position to take if low.

Starting with a fair price is never an assurance that the contract will produce the profit expected, although it helps. There must be fascination in staking your all against the vicissitudes of the constructon game, or so many would not desire to get into it. It probably supplies a "kick" not obtainable in any other way. Those who succeed certainly deserve their reward because it is an exacting business. A busy contractor may wear out but he will never rust out.

OCCUPIES NEW SHOWROOMS

The George Belsey Company, distributors in Southern California of the General Electric refrigeration, have moved into their beautiful new showrooms, Wilshire Boulevard and Western Avenue, Los Angeles. The store is divided into two parts connected by a large modernistic arch. The part on Western Avenue is devoted to a display of the commercial models. There is also a balcony equipped with 17 built-in desks for salesmen. The main store fronts exactly on the corner. The all-steel models are placed along the back wall and are slightly elevated by a six-inch platform. Directly above these all-steel models are concealed 40 powerful spotlights. The porcelain models occupy the windows on both Wilshire and Western, four five hundred watt spotlights being trained on the PL-95, which stands in the corner window. The showroom is decorated in panelled effect, achieved by the use of several shades of green, each separated by a silver stripe. It is attractively furnished with Monterey furniture.

THE BIRTH OF AN ARCHITECT

The troubles of an architect are manifold. Yea, his birth pains are terrible and beyond belief, while his growing pains are many times worse. When he is born he passes through three days of grueling, examinatory pain, yea, even sometimes six, and if by reason of early educational neglect his knowledge is very incomplete, it may be even nine. Following birth comes a series of periods of development.

First—The sad days of waiting when clients come not nigh but pass by on the other side.

Second—There comes the period of active job hunting which brings forth a crop of piker clients, clients who tell their neighbors that "I have designed this house—I have only called on an architect to draw it up in order that I might secure a building permit"—clients that insist on plan requirements for a ten thousand dollar house when they can only spend five thousand—clients that even declare that it does not cost anything to run an architect's office—clients that seem to believe that the great privilege of serving them should be considered ample pay for all services rendered.

Third—Following the period of frantic solicitation, there appears the speculative builder client, the wonder man who buys his plans for fifteen dollars per flat, and then uses them to build fifteen flat buildings, not one of which follows the plan. Why should he employ an architect to supervise his building? It is surely easier to depart from the plans without an architect than with one.

Fourth—In the wake of the speculative builder stage comes the period of high finance—this period when the subtle-promotor appears on the scene. So-and-so has heard that he can acquire certain valuable lots by persuading the owner thereof to pass him title to same and accepting third mortgage bonds as security therefore. All that is required is that an architect shall prepare plans, estimates and numerous, gaudy, impossible water color sketches for a thirteen story apartment building, secure a loan sufficient to build it, pay for the lot on which it is to stand, fee the promoter, etc. In consideration of this service on the part of the architect, subtle-promoter will use his great influence to secure the employment of the architect at the regular recommended minimum Institute rates for architectural services only, otherwise, all obligations do become null and void and subtle-promoter will never have known the architect, except as a poor unfortunate for whom he, the promoter hath done many favors.

After the period of high finance the architect enters the period of sophistication and he becomes either a pessimist or a salesman. No one can do business with a sour, discouraged architect and the crab is reduced to starving condition—an untimely grave with funeral flowers is the end of the budding genius of an architect who can not sell his wares. The architect who has learned how to sell a good thing for what it is worth, is a successful architect.—*E. S. H. in Bulletin of Illinois State Society of Architects.*

BOOKLET ON CONCRETE MASONRY

The Portland Cement Association has recently published a booklet entitled, "Two-Family Houses of Concrete Masonry," which should appeal to architects interested in this type of construction. The booklet presents 18 designs for double-unit houses having the appearance of single family residences of architectural merit. Each of these was prepared by a competent architect.

There are many noteworthy features developed in these designs, such as arrangement of rooms, lighting facilities and efficient stairways. Floor plans are published with each design.

A copy of the book may be had by addressing any of the branch offices of the Portland Cement Association.

CELITE FOR CONCRETE

The Johns-Manville Corporation, Inc., has recently published two booklets of interest to architects. One, "Celite for Concrete," describes a product that has just recently been added to the Johns-Manville line and is destined to be widely used in various types of concrete work. The other book is termed, "The New Book of Roofs," and takes up the subjects of practical roofing from an architect's standpoint. This book also contains some valuable information which is listed as Advisory Roof Service.

LIMESTONE BROCHURE

The Indiana Limestone Company has lately published a brochure describing the beautiful new Detroit Masonic Temple. This structure is built entirely of dark hollow variegated limestone, the product of the Indiana Company. The illustrations in the book reflect the possibilities of detail and carved work in limestone.

SHEET METAL IN ROTOGRAVURE

The American Rolling Mill Co., has published an eight-page rotogravure in which some of the outstanding buildings of the country are illustrated. In all of these buildings sheet metal plays an important part. Architects who have not already received a copy need only send the company their names to Middletown, Ohio, and the leaflet will be mailed to them.

Estimator's Guide

Giving Cost of Building Materials, Wage Scale, Etc.

Amounts quoted are figuring prices and are made up from average quotations furnished by material houses to three leading contracting firms of San Francisco.

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and southern part of the state. Freight cartage, at least, must be added in figuring country work.

Overtime in wage scale should be credited with time and a half, Sunday and holidays double.

Bond—1½% amount of contract.

Brickwork—
Common, $33 to $35 per 1000 laid.
Face, $100 per 1000 laid.
Brick Steps, using pressed brick, $1.10 lin. ft.
Brick Walls, using pressed brick on edge, 68c sq. ft. (Foundations extra.)
Brick Veneer on frame buildings, 70c sq. ft.
Enamel, $120.00 per 1000 f.o.b. cars.
Common, f.o.b. cars, $14.50 plus cartage.
Face, f.o.b. cars, $50.00 per 1000, carload lots.

HOLLOW TILE FIREPROOFING (f.o.b. cars in carload lots).

3x12x12 in.	$ 96.00 per M
4x12x12 in.	108.00 per M
6x12x12 in.	156.00 per M
8x12x12 in.	240.00 per M

Rebate 10% cash 10 days.

HOLLOW BUILDING TILE (f.o.b. cars in carload lots).

8x12x5½	$100.00
6x12x5½	74.00

Composition Floors — 18c to 30c per sq. ft. In large quantities, 18c per sq. ft. laid.
Rubber Tile—65c per sq. ft.

Terazzo Floors—50c per sq. ft.
Terazzo Steps—$1.50 per lin. ft.
Mosaic Floors—80c per sq. ft.

Concrete Work (material at San Francisco bunkers) — Quotations below 2000 lbs. to the ton.

No. 3 rock, at bunkers	$1.40 per ton
No. 4 rock, at bunkers	1.40 per ton
Elliott pea gravel, at bnkrs.	1.40 per ton
Washed gravel, at bnkrs.	1.40 per ton
Elliott top gravel, at bnkrs.	1.40 per ton
City gravel, at bunkers	1.40 per ton
River sand, at bunkers	1.00 per ton
Delivered bank sand	1.00 cu. yd.

Note—Above prices are subject to discount of 10c per ton on invoices paid on or before the 15th of month, following delivery.

SAND
Del Monte, $1.75 to $3.00 per ton.
Fan Shell Beach (car lots, f.o.b. Lake Majella), $2.75 to $4.00 per ton.
Cement, $2.51 per bbl. in paper sks.
Cement (f.o.b. Job, S.F.), $2.71 per bbl.
Cement (f.o.b. Job, Oak.), $2.71 per bbl.
Rebate of 10 cents bbl. cash in 15 days.
Atlas "White" .....$ 8.50 per bbl.
Forms, Labors average 22.00 per M.
Average cost of concrete in place, exclusive of forms, 28c per cu. ft.
4-inch concrete basement floor.....13c to 14c per sq. ft.
4½-inch concrete basement floor.....14c to 15c per sq. ft.
2-inch rat-proofing....6½c per sq. ft.
Concrete Steps.....$1.26 per lin. ft.

Dampproofing—
Two-coat work, 20c per yard.
Membrane waterproofing—4 layers of saturated felt, $5.50 per square.
Hot coating work, $2.25 per square.

Electric Wiring — $3.00 to $9.00 per outlet for conduit work (including switches).
Knob and tube average $2.25 to $5.00 per outlet, including switches.

Elevators—
Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing an automatic elevator in four-story building, $2700; direct automatic, about $2600.

Excavation—
Sand, 70 cents; clay or shale, $1.25 per yard.
Teams, $10.00 per day.
Trucks, $21 to $27.50 per day.
Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

Fire Escapes—
Ten-foot balcony, with stairs, $70.00 per balcony.

Glass (consult with manufacturers)—
Double strength window glass, 15c per square foot.
Quartz Lite, 50c per square foot.
Plate, 75c per square foot.
Art, $1.00 up per square foot.
Wire (for skylights), 27c per square foot.
Obscure glass, 25c per square foot.
Note—Add extra for setting.

Heating—
Average, $1.80 per sq. ft. of radiation, according to conditions.

Iron—Cost of ornamental iron, cast iron, etc., depends on designs.

Lumber (prices delivered to bldg.site)
Common, $26.00 per M (average).
Common O. P. select, average, $34.00 per M.

1 x 6 No. 3—Form lumber	$21.00 per M
1 x 4 No. 1 flooring	50.00 per M
1 x 4 No. 2 flooring	46.00 per M
1 x 4 No. 3 flooring	38.00 per M
1 x 6 No. 2 and better flooring	45.00 per M
1¼ x 4 and 6 No. 2 flooring	53.00 per M

Slash grain—

1 x 4 No. 2 flooring	38.00 per M
1 x 4 No. 3 flooring	36.00 per M
No. 1 common run to T. & G.	30.00 per M
Lath	6.00 per M

Shingles (add cartage to prices quoted)—

Redwood, No. 1	$ .90 per bdle.
Redwood, No. 2	.75 per bdle.
Red Cedar	.90 per bdle.

Hardwood Flooring (delivered to building)—

13-16x3¼" T & G Maple	$135.00 M ft.		
1 1-16x2¼" T & G Maple	145.50 M ft.		
⅞x3½ sq. edge Maple	132.50 M ft.		
	13-16x2¼" T&G	⅜x2" T&G	5-16x2" Sq. Ed.
Clr. Qtd. Oak	$220.00 M	$160.00 M	$178 M
Sel. Qtd. Oak	150.00 M	122.00 M	131 M
Clr. Pla. Oak	155.00 M	110.00 M	113 M
Sel. Pla. Oak	132.00 M	79.00 M	97 M
Clear Maple	147.00 M	101.00 M	
Laying & Finishing	16c ft.	15c ft.	13c ft.

Wage—Floor layers, $9.00 per day.

Building Paper—

1 ply per 1000 ft. roll	$4.00
2 ply per 1000 ft. roll	6.00
3 ply per 1000 ft. roll	9.25
Sash cord com. No. 7	$ 1.05 per 100 ft.
Sash cord com. No. 8	1.20 per 100 ft.
Sash cord spot No. 7	1.75 per 100 ft.
Sash cord spot No. 8	1.10 per 100 ft.
Sash weights cast iron	57.00 ton

Nails, $3.25 base.
Belgian nails, $3.00 base.

Millwork—
O. P. $90.00 per 1000. R. W., $100.00 per 1000 (delivered).
Double hung box window frames, average, with trim, $7.00 and up, each.
Doors, including trim (single panel, 1¾ in. Ore. pine) $7.50 and up, each.
Doors, including trim (five panel, 1¾-in. Oregon pine) $6.50 each.
Screen doors, $3.50 each.
Patent screen windows, 30c a sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., $7.00 each.
Dining room cases, $8.00 per lineal foot.
Labor—Rough carpentry, warehouse heavy framing (average), $12.00 per M.
For smaller work, average, $25 to $32 per 1000.

Marble—(Not set), add 50c to 65c per ft. for setting.

Alaska	$1.40 sq. ft.
Columbia	1.40 sq. ft.
Golden Vein Yule Colo.	1.70 sq. ft.
Pink Lepanto	1.50 sq. ft.
Italian	1.75 sq. ft.

Tennessee	1.70 sq. ft.
Verde Antique	3.00 sq. ft.

NOTE—Above quotations are for ⅞ inch wainscot in large slabs f.o.b. factory. Prices on all other classes of work should be obtained from the manufacturers.

Floor Tile—Set in place.

Verde Antique	$2.75 sq. ft.
Tennessee	1.60 sq. ft.
Alaska	1.35 sq. ft.
Columbia	1.45 sq. ft.
Yule Colorado	1.45 sq. ft.
Travertine	1.60 sq. ft.

Painting—

Two-coat work	30c per yard
Three-coat work	40c per yard
Whitewashing	4c per yard
Cold Water Painting	8c per yard

Turpentine, 85c per gal. in cans and 70c per gal. in drums.
Raw Linseed Oil.....95c gal. in bbls.
Boiled Linseed Oil.....98c gal. in bbls.

Carter or Dutch Boy White Lead in Oil (in steel kegs)

	Per. Lb.
1 ton lots, 100 lbs. net weight	12c
500 lb. and less than 1 ton lots	12¾c
Less than 500 lb. lots	14c

Dutch Boy Dry Red Lead and Litharge (in steel kegs)

1 ton lots, 100 lb. kegs net weight	12½c
500 lb. and less than 1 ton lots	13½c
Less than 500 lb. lots	14½c

Red Lead in Oil (in steel kegs)

1 ton lots, 100 lbs. net weight	13¼c
500 lb. and less than 1 ton lots	13½c
Less than 500 lb. lots	14c

Note—Accessibility and conditions cause wide variance of costs.

Patent Chimneys—

6-inch	$1.00 lineal foot
8-inch	1.50 lineal foot
10-inch	1.85 lineal foot
12-inch	2.10 lineal foot

Pipe Casings — 14" long (average), $5.00 each.

Plastering—Interior—

	Yard
1 coat, brown mortar only, wood lath	$0.40
2 coats, lime mortar hard finish, wood lath	.52
2 coats, hard wall plaster, wood lath	.55
3 coats, metal lath and plaster	1.00
Keene cement on metal lath	1.25
Ceilings with ¾ hot roll channels metal lath	.67
Ceilings with ¾ hot roll channels metal lath plastered	1.40
Shingle partition ¾ channel lath 1 side	.62
Single partition ¾ channel lath 2 sides 2 inches thick	2.20
4-inch double partition ¾ channel lath 2 sides	1.30
4-inch double partition ¾ channel lath 2 sides plastered	2.45

Plastering—Exterior—

	Yard
2 coats cement finish, brick or concrete wall	$1.00
2 coats Atlas cement, brick or concrete wall	1.25
3 coats cement finish No. 18 gauge wire mesh	1.75
3 coats Atlas finish No. 18 gauge wire mesh	2.05
Wood lath, $6.00 per 1000.	
2.5-lb. metal lath (dipped)	.17
2.5-lb. metal lath (galvanized)	.20
3.4-lb. metal lath (dipped)	.22
3.4-lb. metal lath (galvanized)	.27
¾-inch hot roll channels, $45 per ton.	
Hardwall plaster, $15.40 ton; $12.95 in paper sacks (rebate 15c sack).	
Finish plaster, $16.40 ton; in paper sacks, $13.85 (rebate 10c sack).	
Dealer's commission, $1.00 off above quotations.	
Hydrate Lime, $19.50 ton.	
Lime, f.o.b. warehouse, $2.25 bbl.; cars, $2.15	
Lime, bulk (ton 2000 lbs.), $16.00 ton.	
Wall Board 5 ply, $43.00 per M.	

Composition Stucco—$1.60 to 2.00 per sq. yard (applied).

Plumbing—
From $60.00 per fixture up, according to grade, quantity and runs.

Roofing—
"Standard" tar and gravel, $5.25 per square for 30 squares or over.
Less than 30 squares, $5.50 per sq.
Tile, $19.00 to $35.00 per square.
Redwood Shingles, $11.00 per square in place.
Cedar Shingles, $10.50 sq. in place.
Recoat, with Gravel, $3.00 per sq.

Sheet Metal—
Windows—Metal, $1.85 a sq. foot.
Fire doors (average), including hardware, $2.15 per sq. foot.

Skylights—
Copper, $1.35 sq. ft. (not glazed).
Galvanized iron, 30c sq. ft. (not glazed).

Stone—
Granite, average, $6.00 sq. foot in place.
Sandstone, average Blue, $3.50; Boise, $2.60 sq. ft. in place.
Indiana Limestone, $2.60 per sq. ft. in place.

Store Fronts—
Copper sash bars for store fronts, corner, center and around sides, will average 75c per lineal foot.
Note—Consult with agents.

Steel Structural—$97.50 per ton (erected). This quotation is an average for comparatively small quantities
Light truss work higher; plain beam and column work in large quantities, less.
Cost of steel for average building (erected), $93.00 per ton.

Reinforcing—
Base price for car load lots, $2.75 100 lbs., f.o.b. cars.
Average cost to install, $23 per ton.

Steel Sash—
All makes, from S. F. stock, 20c to 35c per square foot.
All makes, plant shipment, 22c to 35c per square foot.
(Includes mullions and hardware.)

Tile—White glazed, 75c per foot, laid.
White floor, 75c per foot, laid.
Colored floor tile, $1.00 per ft. laid.
Promenade tile, 80c per sq. ft., laid.

1929 WAGE SCHEDULES FOR SAN FRANCISCO BUILDING TRADES

EFFECTIVE APRIL 1

Craft	Journeymen Mechanics
Asbestos workers	$ 8.00
Bricklayers	11.00
Bricklayers' hodcarriers	7.00
Cabinet workers, (shop)	7.50
Cabinet workers, (outside)	9.00
Carpenters	9.00
Cement finishers	9.00
Electric workers	9.00
Electrical fixture hangers	8.00
Elevator constructors	10.00
Elevator helpers	7.00
Engineers, portable and hoisting	9.00
Glass workers	8.50
Hardwood floormen	9.00
Housemovers	8.00
Housesmiths, arch. iron, skilled all branches	9.00
Housesmiths, arch. iron, not skilled all branches	8.00
Housesmiths, reinforced concrete, or rodmen	9.00
Iron workers (bridge & structural) including engineers	11.00
Laborers, building (6-day week)	5.50
Lathers, channel iron	10.00
*Lathers, all other	8.50
Marble setters	10.00
Marble helpers	6.00
Marble cutters and copers	8.00
Marble bed rubbers	7.50
Marble polishers and finishers	7.00
Millmen, planing mill department	7.00
Millmen, sash and door	6.00
Millwrights	8.00
Model makers	10.00
Model casters	9.00
Mosaic and Terrazzo workers	9.00
Mosaic and Terrazzo helpers	6.00
Painters	9.00
Painters, varnishers and polishers (shop)	7.50
Painters, varnishers and polishers (outside)	9.00
Pile drivers and wharf builders	9.00
Pile drivers engineers	10.00
Plasterers	11.00
Plasterers' hodcarriers	7.50
Plumbers	10.00
Roofers, composition	8.00
Roofers, all others	8.00
Sheet metal workers	9.00
Sprinkler fitters	10.00
Steam fitters	10.00
Stair builders	9.00
Stone cutters, soft and granite	8.50
Stone setters, soft and granite	9.00
Stone carvers	8.50
Stone derrickmen	9.00
Tile setters	10.00
Tile helpers	6.00
Auto truck drivers, less than 2500 lbs.	5.50
Auto truck drivers, 2500 to 4500 lbs.	6.00
Auto truck drivers, 4500 to 6500 lbs.	6.50
Auto truck drivers, 6500 lbs. and over	7.00
General teamsters, 1 horse	5.50
General teamsters, 2 horses	6.00
General teamsters, 4 horses	6.50
Plow teamsters, 4 horses	6.50
Scraper teamsters, 2 horses	6.00
Scraper teamsters, 4 horses	6.00

*On wood lath if piece rates are paid they shall be not less than such an amount as will guarantee, on an average day's production of 1600 lath, the day wage set forth.

Eight hours shall constitute a day's work for all Crafts except as otherwise noted.

Plasterer's hodcarriers, bricklayers' hodcarriers, roofers, laborers, and engineers, portable and hoisting, shall start 15 minutes before other workmen, both at morning and nooo.

Five and one-half days, consisting of eight hours on Monday to Friday inclusive, and four hours on Saturday forenoon shall constitute a week's work.

Overtime shall be paid as follows: For the first four hours after the first eight hours, time and one-half. All time thereafter shall be paid double time. Saturday afternoon (except laborers), Sundays from 12 midnight Saturday, and Holidays from 12 midoight of the preceding day shall be paid double time. On Saturday afterooon laborers, building, shall be paid straight time.

Where two shifts are worked in any twenty-four hours shift time shall be straight time. Where three shifts are worked, eight hours pay shall be paid for seven hours on the second and third shifts.

All work shall regularly be performed between the hours of 8 A. M. and 5 P. M., provided, that in emergencies or where premises cannot be vacated for work by mechanics until the close of business, men then reporting for work shall work at straight time; but any work performed after midoight shall be paid time and one-half except on Saturday afternoons, Sundays, and holidays, when double time shall be paid.

Recognized holidays to be New Year's Day, Decoration Day, Fourth of July, Labor Day, Admission Day, Thanksgiving Day and Christmas Day.

Men ordered to report for work, for whom no employment is provided, shall be entitled to two hours pay.

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ACOUSTIC CORRECTIONS
Johns-Manville Company, all principal Coast cities.
R. Guastavino Co., represented by Albert B. Mann, Engineer, 417 Crocker Bldg., San Francisco.
"Acousti-Celotex," Western Asbestos Magnesia Co., 25 South Park, San Francisco.
American Hair & Felt Co., 1615 Ditman St., Los Angeles.

AIR COMPRESSORS
Dayton, sold by Simonds Machinery Co., 816 Folsom Street, San Francisco; 520 East 4th Street, Los Angeles.

ACOUSTIC DEADENING
American Hair & Felt Co., 1615 Ditman St., Los Angeles.

ART METAL
Federal Ornamental Iron and Bronze Co., 16th St., and San Bruno Ave., San Francisco.
Michel & Pfeffer Iron Works, 1415 Harrison Street, San Francisco.

ARCHITECTURAL ENCAUSTIC TILE
Mangrum-Holbrook Co., Inc., 1235 Mission Street, San Francisco.

ARCHITECTURAL BRONZE
Elevator Supplies Company, Inc., Hoboken, N. J.; 186 Fifth Street, San Francisco; 1120 S. Hope Street, Los Angeles.
Zouri Drawn Metals Company, Chicago Heights, Illinois, (Zouri Company of California, 1208 Howard St., San Francisco.

ARCHITECTURAL TERRA COTTA
N. Clark & Sons, 116 Natoma Street, San Francisco.
Gladding, McBean & Co., 660 Market St., San Francisco; 621 S. Hope St., Los Angeles; 1500 First Ave. South, Seattle; 454 Everett St., Portland; 15th and Dock Sts., Tacoma, and 22nd and Market Sts., Oakland
W. S. Dickey Clay Mfg. Co., San Francisco and Oakland.

ASBESTOS MATERIALS
Johns-Manville, Inc., of California, 159 Montgomery St., San Francisco. Coast Factory at Pittsburg, Calif.
Western Asbestos Magnesia Company, 25 South Park, San Francisco.
Jones Bros. Asbestos Supply Co., Inc., 500 Second St., San Francisco.

ASPHALT ROOFING
El Rey Products Company, 1633 San Pedro St., Los Angeles; 960 Seventh St., San Francisco; 65 Columbia St., Seattle; 850 E. Taylor St., Portland.
The Paraffine Companies, Inc., San Francisco, Los Angeles, Portland and Seattle.

AUTOMATIC THERMOSTAT CONTROLS
Majestic Electric Appliance Company, 590 Folsom Street, San Francisco.

BEDS—WALL—CONCEALED, ETC.
Marshall & Stearns Co., Phelan Bldg., San Francisco.

BLACKBOARDS
Spinner-Deist Corporation, 555 Mission St., San Francisco.
C. F. Weber & Co., 601 Mission St., San Francisco, Los Angeles and Reno, Nevada.

BOILERS
Kewanee Boiler Co., 635 Mission St., San Francisco.
Kewanee Water Supply System, Simonds Machinery Co., 816 Folsom St., San Francisco.

BONDS FOR CONTRACTORS
Bonding Company of America, Kohl Bldg., San Francisco.
Globe Indemnity Co., 444 California St., San Francisco.
Fidelity & Casualty Co. of New York, Balfour Bldg., San Francisco.
Standard Accident Insurance Company, California Commercial Union Building, San Francisco.

BRASS GOODS, CASTINGS, ETC.
H. Mueller Manufacturing Co., 1072 Howard St., San Francisco.

BRICK—FACE, COMMON, ENAMEL, GLAZED
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McNear Brick Company, Monadnock Bldg., San Francisco.
Richmond Pressed Brick Co., Sharon Bldg., San Francisco. Plant at Richmond, Cal.
Cannon & Co., Sacramento; 517 Call Bldg., San Francisco; Builders Exchange Bldg., Oakland.

BRICK AND CEMENT COATING
The Paraffine Companies, Inc., 475 Brannan St., San Francisco.

BUILT-IN FURNITURE
Built-in Fixture Company, 2608 San Pablo Ave., near Dwight Way, Berkeley, and Hoosier Store, Pacific Bldg., San Francisco.

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"Corbin" hardware, sold by Palace Hardware Company, 581 Market St., San Francisco.
Richards-Wilcox Mfg. Co., Aurora, Ill.; represented by Ewing-Lewis Company, Hunter-Dulin Bldg., San Francisco, and 408 S. Spring Street, Los Angeles.

BUILDING PAPERS
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The Paraffine Companies, Inc., San Francisco, Los Angeles, Portland and Seattle.
Pacific Materials Co., 444 Market St., San Francisco.

CEMENT
Atlas White, manufactured by The Atlas Portland Cement Company, 25 Broadway, New York.
Monolith Plastic Waterproof Cement Company, manufactured by Monolith Portland Cement Company, Bartlett Building, Los Angeles; 741 Monadnock Bldg., San Francisco; 1207 Public Service Bldg., Portland.
Pacific Portland Cement Co., Hunter-Dulin Bldg., San Francisco, also Portland, Ore., Los Angeles and San Jose, Calif.
Hydro-plastic cement, manufactured by Southwestern Portland Cement Company, 356 S. Spring St., Los Angeles

CEMENT EXTERIOR WATERPROOF PAINT
Bass-Heuter Paint Company, San Francisco, Los Angeles, Portland, Seattle.
The Paraffine Companies, Inc., San Francisco, Los Angeles, Portland and Seattle.

CEMENT TESTS—CHEMICAL ENGINEERS
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United Materials Co., Sharon Bldg., San Francisco.

CLOCKS—ELECTRIC TIME
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COMPOSITION ROOFING
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The Paraffine Companies, Inc., San Francisco, Los Angeles, Portland and Seattle.

CONCRETE OR CEMENT HARDENER
Gunn, Carle & Co., Inc., 444 Market St., San Francisco.

CONCRETE REINFORCING
Soule Steel Company, Rialto Building, San Francisco.
Gunn, Carle & Co., Inc., 444 Market St., San Francisco.
Clinton Welded Wire Fabric, Wickwire Spencer Steel Corporation, 144 Townsend St., San Francisco.
Pacific Coast Steel Company, Hunter-Dulin Bldg., San Francisco.
National Steel Fabric Company, 274 Brannan St., San Francisco, and 1736 Naud St., Los Angeles.

CONTRACTORS—GENERAL—
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F. R. Siegrist Co., 604 Williams Bldg., San Francisco.
Spivock & Spivock, Hobart Building, San Francisco, and 412 Water St., Oakland.
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The Paraffine Companies, Inc., San Francisco, Los Angeles, Portland and Seattle.
West Coast Kalsomine Co., 710 Rives-Strong Bldg., Los Angeles, and P. O. Box C, West Berkeley.

DEADENING MATERIAL
"Insulite" Western Asbestos Magnesia Co., 25 South Park, San Francisco.
The Paraffine Companies, Inc., San Francisco, Los Angeles, Portland and Seattle.
American Hair & Felt Co., 1615 Ditman St., Los Angeles.

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Kinnear Mfg. Co., represented in San Francisco by Pacific Materials Co., 444 Market Street.

DOORS—FREIGHT ELEVATOR
The Peelle Co., Brooklyn, N. Y., represented by Graham & Norton Company, 213 Minna St., San Francisco.

DOORS—HOLLOW METAL
Forderer Cornice Works, Potrero Ave., San Francisco.

DOORS—ROLLING
Kinnear Rolling Steel Doors, sold by Pacific Materials Co., 444 Market St., San Francisco.
Jas. G. Wilson Corporation, 605 Market St., San Francisco.

DRAIN PIPE AND FITTINGS
"Corrosiron" Acid Proof, manufactured by Pacific Foundry Co., Harrison and 18th Sts., San Francisco.

DRAPERIES AND WINDOW SHADES
D. N. & E. Walter & Co., 562 Mission Street, San Francisco.

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Elevator Supplies Co., Inc., Hoboken, N. J.; San Francisco office, 186 Fifth St.

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Majestic Electric Appliance Company, 690 Folsom Street, San Francisco.
Wesix Heater Company, Rialto Building, San Francisco.
Sandoval Sales Company, 415 Jessie Street, San Francisco.
Weir Electric Appliance Company, 26th and Adeline Streets, Oakland.

ELECTRIC REFRIGERATION
General Electric Refrigerator, George Belsey Company, Los Angeles, Distributor, Stores in Los Angeles, Pasadena, Glendale, Hollywood, Santa Monica and Monrovia; L. H. Bennett, Northern California Distributor, 2112 Broadway, Oakland; 318 Stockton St., San Francisco.
Wayne Home Equipment Company, Fort Wayne, Indiana, represented by Hill and Stoops, 4214 Broadway, Oakland, Calif.

ELECTRICAL SUPPLIES AND EQUIPMENT
The Frink Company, 10th Ave. at 24th St., New York; 77 O'Farrell St., San Francisco
Drendell Electrical & Mfg. Co., 1345 Howard St., San Francisco.
Frank Adam Electric Company, 340 Fremont St., San Francisco, and 1127 Wall Street, Los Angeles; general offices, St. Louis, Mo.
Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pa., and First National Bank Bldg., San Francisco.
The Frink Company, 10th Ave. at 24th St., New York; 77 O'Farrell St., San Francisco
Sterling Bronze Co., Inc., 18 East 40th St., New York.

ELECTROLIERS
Northern Street Lighting Company, 389 Clementina Street, San Francisco.

ELEVATORS—PASSENGER AND FREIGHT
Otis Elevator Company, Stockton and North Point, San Francisco.
Spencer Elevator Company, 166 Seventh St., San Francisco.
Westinghouse Electric and Manufacturing Company, First National Bank Bldg., San Francisco, general offices and works, Pittsburgh, Pa.

ELEVATOR SIGNALS, DOOR EQUIPMENT
Graham & Norton Company, 213 Minna St., San Francisco.
Elevator Supplies Co., Inc., Hoboken, N. J.; San Francisco office, 186 Fifth St.
The Peelle Co., Brooklyn, N. Y., represented by Graham & Norton Company, 213 Minna St., San Francisco.
Richards-Wilcox Mfg. Co., represented by Ewing-Lewis Company, Hunter-Dulin Bldg., San Francisco; 408 S. Spring Street, Los Angeles.

ENAMELS
Gold Seal Enamel—Bass-Heuter Paint Company, San Francisco, Los Angeles, Portland, Seattle.

EXIT DEVICES
Von Duprin, manufactured by Vonnegut Hardware Company, Indianapolis; sold by D. A. Pancoast Co., 605 Market St., San Francisco.

FENCES—WIRE AND IRON
Michel & Pfeffer Iron Works, Harrison and Tenth Sts., San Francisco.
Standard Fence Company, 432 Bryant St., San Francisco; 60th and Lowell Sts., Oakland; 1107 North Highland Ave., Los Angeles.

FIRE ESCAPES
Michel & Pfeffer Iron Works, 1415 Harrison St., San Francisco.
Palm Iron & Bridge Works, Sacramento.
Western Iron Works, 141 Beale St., San Francisco.

FIRE SPRINKLERS—AUTOMATIC
Fire Protection Engineering Co., 407 Exchange Building, 369 Pine Street, San Francisco.
Grinnell Company of the Pacific, Fifth and Brannan Sts., San Francisco.

FIXTURES—BANK, OFFICE, STORE, ETC.
Home Manufacturing Company, 552 Brannan St., San Francisco.
Mullen Manufacturing Co., 64 Rausch St., San Francisco.
Pacific Manufacturing Company, San Francisco, Los Angeles, Oakland and Santa Clara.
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FLOORS—REDWOOD BLOCK
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Inlaid Floor Company, 600 Alameda Street, San Francisco and 4067 Watts Street, Emeryville, Oakland.
"Perfection" Brand Oak Flooring, Arkansas Oak Flooring Co., Pine Bluff, Arkansas.
J. E. Higgins Lumber Company, San Francisco.
White Brothers, 5th and Brannan streets San Francisco; 500 High Street, Oakland.
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FREIGHT ELEVATOR DOORS
The Peelle Co., Brooklyn, N. Y., represented by Graham & Norton Company, 213 Minna St., San Francisco.

FURNACES—GAS
Payne Furnace and Supply Co., Los Angeles (see advertisement on page 4 for nearest representative).

FURNITURE—OFFICE, SCHOOL, CHURCH, THEATER
The Fink & Schindler Co., Inc., 218-68 13th St., San Francisco.
Home Mfg. Co., 552 Brannan Street, San Francisco.
Mullen Mfg. Co., 64 Rausch Street, San Francisco.
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White Brothers, 5th and Brannan streets, San Francisco; 500 High Street, Oakland.

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Montague Range & Furnace Company, 376 Sixth St., San Francisco.

HEATING—ELECTRIC
Wesix Electric Air Heaters, manufactured and distributed by Wesix Heater Company, Rialto Building, San Francisco.
Apex Air and Water Electric Heaters, Sandoval Sales Company, 115 Jessie Street, San Francisco.
Majestic Electric Appliance Co. (bathroom heater), 690 Folsom St., San Francisco.
Weir Electric Appliance Company, 26th and Adeline Streets, Oakland.

HEATING—GAS
Payne Furnace and Supply Co., Los Angeles (see advertisement on page 4 for nearest representative).

HEATING—STEAM
Warren Webster & Company, Sharon Bldg., San Francisco, and 306 Crocker St., Los Angeles.

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Gilley-Schmid Company, 198 Otis St., San Francisco.
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James A. Nelson, Inc., Howard and Tenth Sts., San Francisco.
B. F. Sturtevant Co., Monadnock Bldg., San Francisco; Los Angeles, Portland, Seattle.

HOLLOW BUILDING TILE (Burned Clay)
Cannon & Co., plant at Sacramento; Call Bldg., San Francisco.
N. Clark & Sons, 112-116 Natoma Street, San Francisco; works, West Alameda, California.
Gladding, McBean & Co., 660 Market St., San Francisco; 621 S. Hope St., Los Angeles; 1500 First Ave. South, Seattle; 454 Everett St., Portland; 15th and Dock Sts., Tacoma, and 22nd and Market Sts., Oakland.
W. S. Dickey Clay Mfg. Co., San Francisco and Oakland.

HOSE
The American Rubber Mfg. Co., Park Ave. and Watts St., Oakland, Calif.

HOSE RACKS AND REELS
American Rubber Mfg. Co., San Francisco, Oakland, Los Angeles and Portland, Ore.

HOSPITAL SIGNAL SYSTEMS
Chicago Signal Co., represented by Garnett Young & Co., 390 Fourth St., San Francisco.

INCINERATORS
Kerner Incinerator Company, 450 Clementina Street, San Francisco.
The Goder, sold by M. E. Hammond, Mezzanine, Pacific Bldg., San Francisco.
Kewanee Boiler Co., 635 Mission Street, San Francisco.

INDUSTRIAL LIGHTING EQUIPMENT
Westinghouse Electric and Mfg. Co., East Pittsburgh, Pa., and First National Bank Bldg., San Francisco.

INSPECTIONS AND TESTS
Robert W. Hunt Co., 251 Kearny Street, San Francisco.

INSULATION
"Insulex" manufactured by Pacific Portland Cement Co., Hunter-Dulin Bldg., San Francisco, & 1200 Chapman Bldg., Los Angeles.
Western Asbestos Magnesia Co., 25 South Park, San Francisco.
American Hair and Felt Company, 1615 N. Ditman St., Los Angeles.

California State Board of Architecture

Northern District

Phelan Building, San Francisco

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Secretarial Office 952 Pacific Building, San Fancisco
Telephone SUtter 5819

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OIL HEAT FOR HOTELS

Oil heat has firmly established itself as one of the most notable modern advances in hotel operation. Its value, as a means to improved heating service and lowered heating and cleaning costs, has been demonstrated beyond question. Rapidly advancing standards of service have made the installation of improved hotel equipment not merely desirable but necessary. What modern devices and methods have done in the kitchen, laundry and other departments of an efficiently-equipped hostelry, oil fuel has accomplished for the boiler room. It has brought hotel heating up to date.

With steel construction and modern elevators, hotels have grown in scope and stature. The needs of a vastly increased traveling public have been met by added floors and multiplied room capacities. Such expanded guest accommodations necessitate multiplied personnel—a development that is usually away from, rather than toward, operating efficiency.

Hotel owners have turned to labor-saving machinery for an answer to the problem and found it in modern kitchen, laundering and cleaning equipment. Fuel oil leaves no ashes and requires no shoveling.

Oil fuel transforms the coal-fired boiler room from an annoying source of noise and dirt to a unit that is fully in keeping with modern hotel standards of quietness and cleanliness. These and other hidden factors make for satisfied guests and a valuable reputation.

Hot water consumption is a sizable item with modern hotels. Its cost, especially in the non-heating seasons, often assumes large proportions. Amazing economies have been realized in year-round water heating with oil, enough in some cases to write off a good percentage of the total investment in an oil heating installation.

Oil burning equipment frequently pays for itself in a relatively short time by reducing labor costs and conserving fuel. The actual economy realized with it depends, of course, on the size of the hotel and local fuel and ash removal costs. The following records from the Ritz-Carlton Hotel in New York strikingly illustrate the soundness of an investment in oil burning equipment (Hotel Whitcomb, San Francisco, has a similar installation):

Oil Heating Costs for Six Months

Oil burned—1,032,082 gals.	$52,417.36
Cost of boiler room labor	5,710.00
Cost of ash removal	
Repairs and renewals	
Total	$58,127.36

Coal Heating Costs for Corresponding Six Months

Coal burned—7915 tons	$69,417.73
Cost of boiler room labor	11,134.13
Cost of ash removal	2,388.00
Repairs and renewals	678.40
Total	$83,618.26
Cost with oil	58,127.36
Saving with oil	$25,490.90

NOTE: This saving in six months amounted to approximately 85 per cent of the equipment installation cost.

The modern oil burner can be successfully applied to present boiler equipment. The only investment necessary is for the oil burning and storage equipment itself and the labor of installing it.

Obviously a correct installation by the dealer is of paramount importance. As much attention should be paid to this one factor as to any other, for upon it depends the successful operation of the equipment. Similarly, the subsequent service and maintenance of the equipment is a substantial part of the problem, and the best results will be secured only when the owner is willing to place all maintenance and service problems in the hands of service men supplied by the selling organization.

MR. HOWARD'S NEW BOOK

John Galen Howard, creator of many of the University of California's finest buildings, and author of poems and monographs, has made a bid for wider fame with a new book of poetry.

It is called "Phidias," a story of the famous sculptor of Delphi. The work tells the story of Phidias in reminiscence from the memoirs of his friend, Pantarkes, and deals with details of a great man's life.

BEAUTY IN IRON

The brochure which Michel and Pfeffer, makers of exclusive ornamental and wrought iron work, factories in San Francisco, have recently produced, is a work of art, typographically and otherwise. The book features the wrought iron work in the Sir Francis Drake Hotel and has been well termed, "Beauty in Iron."

WHAT'S WHAT IN MATERIALS

WHO'S WHO AMONG CONTRACTORS

ALPHABETICAL LIST OF ADVERTISERS ON PAGE 125

KITCHEN EQUIPMENT
General Electric Refrigerator, L. H. Bennett, Rialto Building, San Francisco, and the George Belsey Company, Architects Building, Los Angeles.
James A. Nelson, Inc., Howard and Tenth Sts., San Francisco.
Mangrum Holbrook Company, 1235 Mission St., San Francisco.

LACQUERS
The Paraffine Companies, Inc., San Francisco, Los Angeles, Portland and Seattle.
Bass-Hueter Paint Company, San Francisco and all principal Coast cities.

LATHING MATERIAL—WIRE METAL, ETC.
Genfire Steel Co., Sheldon Bldg., San Francisco; Builders' Exchange, Oakland.
Pacific Materials Co., 444 Market Street, San Francisco.
Truscon Steel Co., Sharon Building, San Francisco.
National Steel Fabric Company, 274 Brannan St., San Francisco, and 1736 Naud St., Los Angeles.
Soule Steel Company, Rialto Building, San Francisco, and Los Angeles.

LAUNDRY MACHINERY AND EQUIPMENT
American Laundry Machinery Company, 921 Howard Street, San Francisco.
Troy Laundry Mach'y Co., Ltd., East Moline, Ill., and 951 Mission St., San Francisco.

LEATHER MATS
"Beatsall" Leather Mat Mfg. Co., 340 Sansome St., San Francisco.

LEATHER PANELS & WALL DECORATORS
Lackawanna Leather Co., represented by Gaylord Lee, 208 Fremont St., San Francisco.

LEATHER UPHOLSTERY
Lackawanna Leather Co., represented by Gaylord Lee, 208 Fremont St., San Francisco.

LIGHTING FIXTURES, OUTLETS, ETC.
The Frink Co., 10th Ave. at 24th St., New York, and 77 O'Farrell St., San Francisco.
Westinghouse Electric and Mfg. Co., First National Bank Bldg., San Francisco; general offices and works, Pittsburgh, Pa.
Major Equipment Company, 4603 Fullerton Avenue, Chicago, Ill.; represented by Theater Lighting and Equipment Co., 255 Golden Gate Avenue, San Francisco.
The Frink Company, 369 Lexington Avenue, New York, and principal Coast cities.
The Frink Company, 10th Ave. at 24th St., New York; 77 O'Farrell St., San Francisco
Sterling Bronze Co., Inc., 18 East 40th St., New York.

LIME PRODUCTS
United States Lime Products Corp., San Francisco, Los Angeles, Portland, Ore.

LINOLEUM
William Volker & Co., 631 Howard St., San Francisco, and 2301 E. 7th St., Los Angeles.
Bonded Floors Company, Inc., D. N. & E. Walter & Co., San Francisco, and Broadway Department Store, Los Angeles.
The Paraffine Companies, factory in Oakland; office, 475 Brannan Street, San Francisco.
W. & J. Sloane, 216 Sutter Street, San Francisco.
Van Fleet- Freear Company, 557 Howard St., San Francisco, and 420 S. Spring St., Los Angeles.

LUMBER
G. H. Brown Hardwood Company, 1044 47th Ave., Oakland.
Pacific Mfg. Co., San Francisco, Oakland, Los Angeles and Santa Clara.
Santa Fe Lumber Co., 16 California St., San Francisco.
J. E. Higgins Lumber Company, 423 Sixth St., San Francisco.
Sunset Lumber Company, First and Oak Sts., Oakland.
White Brothers, 5th and Brannan Sts., San Francisco, and 500 High St., Oakland.

MAIL CHUTES
Cutler Mail Chute Co., represented by Price Building Specialties Co., 683 Howard St., San Francisco and Continental Building Specialties Co., 1216 Hibernian Bldg., Los Angeles.

MARBLE
American Marble Company, 25 Columbus Square, San Francisco.
Ray Cook Marble Company, foot of Powell St., Oakland.
Joseph Musto Sons-Keenan Co., 535 N. Point St., San Francisco.
Vermont Marble Co., Coast branches, San Francisco, Los Angeles and Tacoma.
Tompkins-Kiel Marble Company, 505 Fifth Ave., New York; also Chicago, Philadelphia and San Francisco.
Clervi Marble and Mosaic Co., 1721 San Bruno Ave., San Francisco.

MASONRY ANCHORS
Steelform Contracting Company, Monadnock Bldg., San Francisco; Edwards & Wildey Bldg., Los Angeles.

METAL COVERED DOORS
Forderer Cornice Works, Potrero Ave., San Francisco.

MILLWORK
The Fink & Schindler Co., Inc., 218-68 13th St., San Francisco.
Pacific Mfg. Co., San Francisco, Los Angeles, Oakland and Santa Clara.
Sunset Lumber Company, First and Oak Streets, Oakland.
Lamnom Bros. Mfg. Co., Fifth and Magnolia Sts., Oakland.
Atkinson Mill & Mfg. Co., 2985 Chapman Avenue, Oakland.
Chicago Lumber Company of Washington, 66th and 69th Aves and Spencer Street, Oakland.

MONEL METAL
"Inco" brand, distributed on the Pacific Coast by the Pacific Foundry Company, Harrison and 18th Streets, San Francisco, and Eagle Brass Foundry, Seattle, Wash.

OIL BURNERS
Quiet-May Automatic Oil Burner Company, 959 Natoma St., San Francisco.
Rayfield Automatic Oil Burner, Pacific Coast Distributors, E. A. Cornely, Inc., 1452 Bush St., San Francisco.
S. T. Johnson Company, 1337 Mission St., San Francisco; 940 Arlington St., Oakland.
Vaughn-G. E. Witt Co., 4224-28 Hollis Street, Emeryville, Oakland.
W. S. Ray Mfg. Company, 170 Sutter St., San Francisco, and 2206 San Pablo Ave., Oakland.
Coen Company, 112 Market Street, San Francisco.
Wayne Home Equipment Company, Fort Wayne, Indiana, represented by Hill and Stoops, 4214 Broadway, Oakland, Calif.

ORNAMENTAL IRON AND BRONZE
Federal Ornamental Iron and Bronze Co., 16th St. and San Bruno Ave., San Francisco.
Michel & Pfeffer Iron Works, 1415 Harrison St., San Francisco.
Palm Iron & Bridge Works, Sacramento.

PAINTING, DECORATING, ETC.
The Tormey Co., 681 Geary St., San Francisco.
A. Quandt & Sons, 374 Guerrero Street, San Francisco.

PAINTS, OILS, ETC.
The Paraffine Companies, Inc., San Francisco, Los Angeles, Portland and Seattle.
Bass-Hueter Paint Company, San Francisco, Los Angeles, Portland, Seattle.
General Paint Company, Los Angeles, San Francisco, Oakland, Seattle, Spokane and Portland.

PANEL BOARDS
Drendell Electric & Mfg. Co., 1760 Howard St., San Francisco.
Frank Adam Electric Company, 340 Fremont St., San Francisco, and 1127 Wall Street, Los Angeles; general offices, St. Louis, Mo.
Westinghouse Elec. and Mfg. Co., First National Bank Bldg., San Francisco; general offices and works Pittsburgh, Pa.

PANELS—HARDWOOD
White Brothers, 5th and Brannan Sts., San Francisco, and 500 High St., Oakland.

PANIC EXIT DEVICES
Von Duprin, manufactured by Vonnegut Hardware Company, Indianapolis; sold by D. A. Pancoast Co., 605 Market Street, San Francisco.

PARTITIONS—MOVABLE OFFICE
Pacific Mfg. Co., Monadnock Building, San Francisco; factory at Santa Clara.

PIPE—WROUGHT IRON
A. M. Byers Co., Pittsburgh, Pa., and Financial Center Bldg., Los Angeles.
Reading Iron Co., Reading, Pa., and Balboa Bldg., San Francisco.

PLASTER
"Empire," manufactured by Pacific Portland Cement Co., Hunter-Dulin Building, San Francisco, Portland, San Jose and Los Angeles.

PLASTER BASE
"Celotex," Western Asbestos Magnesia Co., 25 South Park, San Francisco.

PLASTER REINFORCING
Wickwire-Spencer Steel Company, Inc., 144 Townsend St., San Francisco.
National Steel Fabric Company, 274 Brannan St., San Francisco, and 1736 Naud St., Los Angeles.

PLASTERING CONTRACTORS
A. Knowles, Call Bldg., San Francisco.
MacGruer & Company, 266 Tehama Street, San Francisco, and Pacific Mutual Bldg., Los Angeles.

PLUMBING CONTRACTORS
Alex Coleman, 706 Ellis St., San Francisco.
Gilley-Schmid Company, 198 Otis St., San Francisco.
Hateley & Hateley, 1710 Tenth St., Sacramento.
Herman Lawson, 465 Tehama Street, San Francisco.
Luppen & Hawley, 906 7th St., Sacramento.
Scott Co., Inc., 243 Minna St., San Francisco.
Geo. N. Zaro, 1311 Harrison Street, San Francisco.
Wm. F. Wilson Co., 240 Fourth Street, San Francisco.
Geo. A. Schuster, 4712 Grove St., Oakland.
W. H. Picard, 5656 College Ave., Oakland.

PLUMBING SUPPLY HOUSES
H. Mueller Manufacturing Company, 1072-76 Howard St., San Francisco.
Standard Pacific Fixtures, 349 Sutter St., San Francisco.
Clarence Drucker, manufacturers' representative, 307 Minna St., San Francisco.

PRESSED STEEL
Berger Manufacturing Co., 1120 Mission St., San Francisco.

PRESSURE REGULATORS
Vaughn-G. E. Witt Co., 4224-28 Hollis Street, Emeryville, Oakland.

PUMPING MACHINERY
Simonds Machinery Co., 816 Folsom Street, San Francisco; 620 East 4th Street, Los Angeles.

PUMPS—HAND OR POWER
Ocean Shore Iron Works, 558 Eighth St., San Francisco.
S. F. Bowser & Co., Inc., 425 Brannan St., San Francisco.

REFRIGERATORS
McCray Refrigerator Sales Corp., Kendallville, Illinois; San Francisco office, 765 Mission St.,
"General Electric," sold by the George Belsey Company, Architects' Building, Los Angeles; L. H. Bennett, Rialto Bldg., San Francisco.

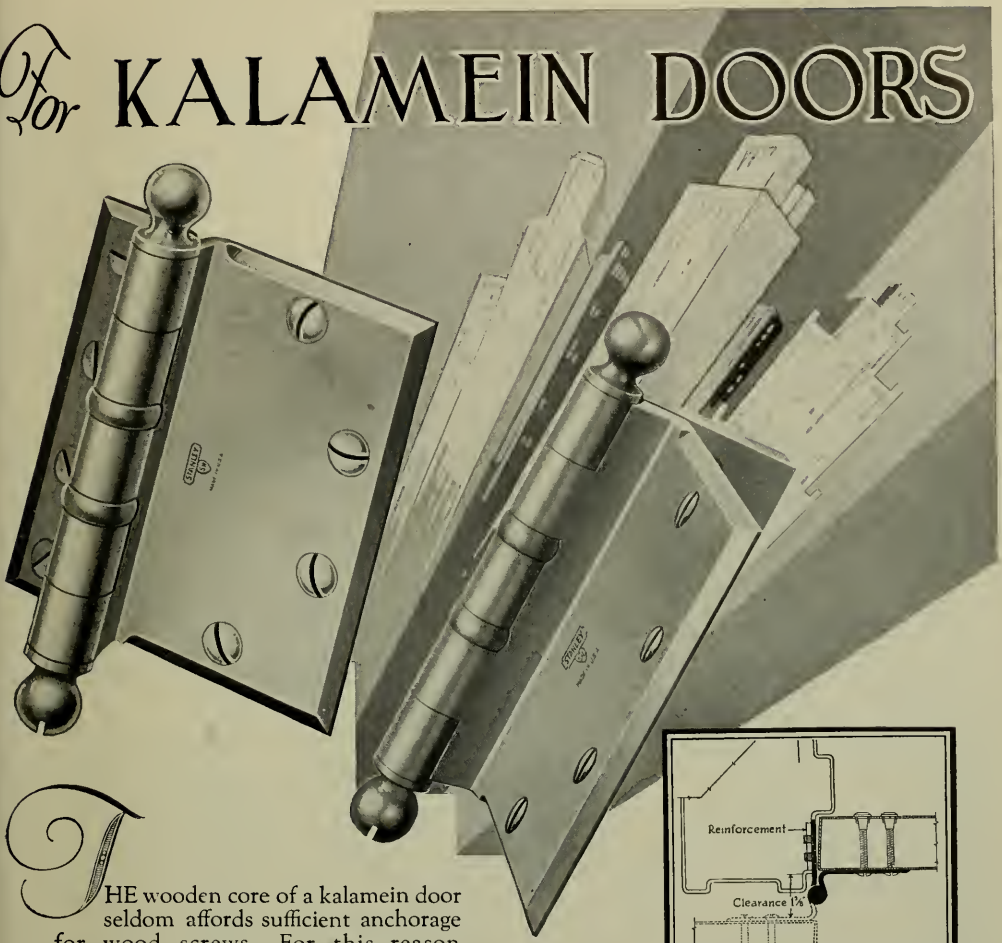
REGISTERS
Payne Furnace and Supply Co., Los Angeles (see advertisement on page 4 for nearest representative).

REINFORCING STEEL
Soule Steel Company, Inc., Rialto Bldg., San Francisco, and Los Angeles.
Gunn, Carle & Co., Inc., 444 Market St., San Francisco.
National Steel Fabric Company, 274 Brannan St., San Francisco, and 1736 Naud St., Los Angeles.
Pacific Coast Steel Co., Hunter-Dulin Bldg., San Francisco.
United Alloy Steel Corporation, Canton, Ohio; Western Sales Office, Santa Fe Bldg., San Francisco.
Truscon Steel Company, Sharon Bldg., San Francisco.

ROCK AND GRAVEL
Coast Rock & Gravel Company, General office, Hunter-Dulin Building, 111 Sutter Street, San Francisco.

ROOF MATERIALS
El Rey Products Co., 1638 San Pablo St., Los Angeles; 960 7th St., San Francisco; 65 Columbia St., Seattle; 850 E. Taylor St., Portland.
Kraftile Company, office and factory at Niles; 55 New Montgomery Street, San Francisco.
"Melthoid" and "Ruberoid," also "Pabco"

For KALAMEIN DOORS



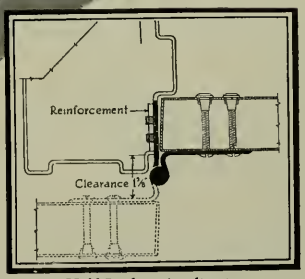
THE wooden core of a kalamein door seldom affords sufficient anchorage for wood screws. For this reason either Half Surface or Full Surface Ball Bearing Butts should always be used.

Butts should be applied with through bolts and grommet nuts which draw the metal tightly over the wooden core and prevent buckling of the metal.

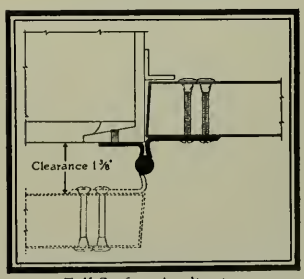
For Kalamein Doors with Pressed Steel Jambs, use Stanley **Half Surface** Template Ball Bearing Butts.

For Kalamein Doors with Channel Iron Jambs, use Stanley **Full Surface** Template Ball Bearing Butts.

THE STANLEY WORKS
New Britain, Conn.



Half Surface Application



Full Surface Application

STANLEY HARDWARE

STANLEY SW

WHAT'S WHAT
IN MATERIALS

WHO'S WHO
AMONG CONTRACTORS

ALPHABETICAL LIST OF ADVERTISERS ON PAGE 125

10 and 20 year roofs, manufactured by the Paraffine Companies, Inc., San Francisco.
Gladding, McBean & Co., 660 Market St., San Francisco; 621 S. Hope St., Los Angeles; 1500 First Ave. South, Seattle; 454 Everett St., Portland; 15th and Dock Sts., Tacoma, and 22nd and Market Sts., Oakland.
N. Clark & Sons, 112-116 Natoma Street, San Francisco; works, West Alameda, California.
W. S. Dickey Clay Mfg. Co., 604 Mission St., San Francisco.
Jones Brothers Asbestos Supply Co., 500 Second St., San Francisco.
Johns-Manville Corporation of California, 159 New Montgomery St., San Francisco.
United Materials Co., Sharon Building, San Francisco.
Western Asbestos Magnesia Company, 25 South Park, San Francisco.
Los Angeles Paper Mfg. Co., 1633 North San Pablo St., Los Angeles.

RUGS AND CARPETS
W. & J. Sloane, 216 Sutter St., San Francisco.

SAFETY TREADS
Pacific Materials Co., 444 Market St., San Francisco.
Price-Teltz Company, 683 Howard St., San Francisco.

SASH CHAINS
American Chain Company, Inc., Bridgeport, Conn., and 425 Second St., San Francisco.
The Smith & Egge Mfg. Co., P. O. Box 1040, Bridgeport, Conn.; 506 American Bank Bldg., Los Angeles.

SCAFFOLDING FOR CONTRACTORS
Steelform Contracting Company, Monadnock Bldg., San Francisco; Edwards & Wildey Bldg., Los Angeles.

SEATING—SCHOOL, THEATER, CHURCH
Home Manufacturing Company, Inc., 552 Brannan St., San Francisco.
C. F. Weber & Co., San Francisco, Los Angeles, Phoenix, Ariz.; Reno, Nevada.

SELF-RELEASING FIRE EXIT DEVICES
Von Duprin, manufactured by Vonnegut Hardware Company, Indianapolis; sold by D. A. Pancoast Co., 605 Market St., San Francisco.

SHADES
William Volker & Co., 631 Howard Street, San Francisco; 2301 East 7th Street, Los Angeles.

SHEATHING AND SOUND DEADENING
Western Asbestos Magnesia Co., 25 South Park, San Francisco.

SHEET METAL WORKS
Forderer Cornice Works, Potrero Ave., San Francisco.

SHOW CASES
Home Manufacturing Company, Inc., 552 Brannan St., San Francisco.
Mullen Manufacturing Company, 64 Rausch St., San Francisco.

SOUND ABSORBING TREATMENT
Johns-Manville Corporation, 169 New Montgomery St., San Francisco.

SIGNALING & PROTECTIVE SYSTEMS
Garnett, Young & Co., 390 Fourth St., San Francisco.

STEEL FABRIC
National Steel Fabric Co., 274 Brannan St., San Francisco, and 1736 Naud St., Los Angeles.
Wickwire - Spencer Steel Corporation, 144 Townsend St., San Francisco.
Soule Steel Company, Rialto Bldg., San Francisco, and Los Angeles.

STEEL FORMS
Steelform Contracting Company, Monadnock Bldg., San Francisco; Edwards & Wildey Bldg., Los Angeles.

STEEL TANKS
Ocean Shore Iron Works, 56 Eighth St., San Francisco.

STEEL LUMBER
Genfire Steel Co., Sheldon Bldg., San Francisco; Builders' Exchange, Oakland.

STEEL MOULDINGS
Braun-Steeple Company, 1088 Howard St., San Francisco.

STEEL SASH
Bayley-Springfield solid steel sash, sold by Pacific Materials Co., 444 Market St., San Francisco.
"Fenestra" Solid Steel Sash, manufactured by Detroit Steel Products Co., factory sales office, 417 Market St., San Francisco.
Berger Manufacturing Co., 1120 Mission St., San Francisco.
Michel & Pfeffer Iron Works, 1415 Harrison St., San Francisco.
Truscon Steel Company, 74 New Montgomery St., San Francisco.

STEEL SASH AND DOORS
W. C. Lea, 653 South Clarence St., Los Angeles.

STEEL—STRUCTURAL
Golden Gate Iron Works, 1541 Howard St., San Francisco.
Judson Pacific Company, C. F. Weber Bldg., Mission and Second Sts., San Francisco; shops, San Francisco and Oakland.
McClintic - Marshall Company, 621 Florida Street, San Francisco.
Herrick Iron Works, 18th and Campbell Sts., Oakland.
Pacific Coast Eng. Co., foot 14th St., Oakland
Pacific Coast Steel Co., Hunter-Dulin Bldg., San Francisco.
Palm Iron & Bridge Works, Sacramento.
Schrader Iron Works, Inc., 1247 Harrison St., San Francisco.
Western Iron Works, 141 Beale Street, San Francisco.

STONE
Indiana Limestone Company, Tribune Tower, Chicago, Ill., and Crocker First National Bank Bldg., San Francisco.

STORE FRONTS
Zouri Drawn Metals Company, Chicago Heights, Illinois. (Zouri Company of California 1208 Howard St., San Francisco.)

STORE FURNITURE
Berger Manufacturing Co., 1120 Mission St., San Francisco.

STREET LIGHTING EQUIPMENT
Westinghouse Electric and Mfg. Co., East Pittsburgh, Pa., and First National Bank Bldg., San Francisco.

STUCCO—COMPOSITION
"California," manufactured by California Stucco Products Company. 340 Dore St., San Francisco; 1503 S. Alameda St., Los Angelea; 536 L Street, San Diego; 4523 Shilshole Ave., Seattle, Wash., and 210 Thompson Street, Portland, Oregon.

SWITCHES AND SWITCHBOARDS
Drendell Electrical & Mfg. Co., 1345 Howard St., San Francisco.
Westinghouse Elec. & Mfg. Co., First Nat. Bank Bldg., San Francisco; general offices and Works, Pittsburgh, Pa.

TELEPHONES—AUTOMATIC, PRIVATE
Automatic Electric Inc., Chicago, Ill.; 1112 Pacific Finance Bldg., Los Angeles.

THERMOSTATS FOR HEAT REGULATION
Johnson Service, Milwaukee, Wis.; Rialto Building, San Francisco.

TELECHRON CLOCKS
F. A. Thomas Co., 47 2nd St., San Francisco.

TERRA COTTA
N. Clark & Sons, 116 Natoma Street, San Francisco.
National Terra Cotta Society, 230 Park Avenue, New York, N. Y.

TILE—RUBBER, CLAY, CORK ETC.
Bonded Floors Company, Inc., D. N. & E. Walter & Co., San Francisco, and Broadway Department Store, Los Angeles.
N. Clark & Sons, 112-116 Natoma Street, San Francisco; works West Alameda, Cal.
Gladding, McBean & Co., 660 Market St., San Francisco; 621 S. Hope St., Los Angeles; 1500 First Ave. South, Seattle; 454 Everett St., Portland; 15th and Dock Sts., Tacoma, and 22nd and Market Sts., Oakland.
Kraftile Company, factory at Niles; 55 New Montgomery Street, San Francisco.
Mangrum-Holbrook, Inc., 1235 Mission St., San Francisco.
United States Rubber Co., 300 Second St., San Francisco, and 923 Los Angeles St., Los Angeles, Calif.

UNDERFLOOR DUCT SYSTEM
Johns-Manville Corporation, 159 New Montgomery St., San Francisco.

VALVES—PIPES AND FITTINGS
Clarence Drucker, Manufacturers' Agent, 307 Minna Street, San Francisco.
Grinnell Co., Fifth and Brannan Sts., San Francisco.
Mueller Company, 1072 Howard Street, San Francisco.
Sloan Valve Company, Chicago; E. C. Whalen, 954 Western Pacific Bldg., Los Angeles; W. J. Driscoll, 482 Monadnock Bldg., San Francisco; E. C. Fallein, U. S. National Bank Bldg., Denver; S. D. Cochran, L. C. Smith Bldg., Seattle, Wash.

VARNISHES
Bass-Hueter Paint Company, San Francisco, Los Angeles, Portland, Seattle.
The Paraffine Companies, Inc., San Francisco, Los Angeles, Portland and Seattle.
Hill, Hubbell & Co., Los Angeles, Oakland, Portland, Seattle and 160 Fremont St., San Francisco.
General Paint Company, Los Angeles, San Francisco, Oakland, Seattle, Spokane and Portland.

VENETIAN BLINDS
C. F. Weber & Company, 601 Mission St., San Francisco.

VENTILATING EQUIPMENT
B. F. Sturtevant Co., Monadnock Bldg., San Francisco; Los Angeles, Portland and Seattle.

VENTILATORS
"The Panelouvre," sold by M. E. Hammond, Pacific Bldg., San Francisco.

VITREOUS CHINAWARE
Standard - Pacific Plumbing Fixtures, 349 Sutter St., San Francisco; 919 W. Seventh St., Los Angeles; 1301 Fifth Ave. Seattle Wash.; 48 Fifth St., Portland, Ore.

WATERPROOF CEMENT
Victor Hydro-plastic waterproof cement, manufactured by Southwestern Portland Cement Co., 356 S. Spring St., Los Angeles.

WALL BEDS, SEATS, ETC. (See Beds).

WIRING SYSTEM
General Electric Company, San Francisco and all principal Coast cities.

WATER COOLERS
General Electric Refrigerator, L. H. Bennett, Rialto Building, San Francisco, and the George Belsey Company, Architects Building, Los Angeles.

WATER HEATERS
Apex Electric Hot Water Heaters, distributed by Sandoval Sales Co., 115 Jessie St., San Francisco.
Pittsburgh Water Heater Co. (gas), 478 Sutter St., San Francisco.
Ruud Heater Co. (gas), 245 Mason St., San Francisco.
Wesix Heater Company, Rialto Building, San Francisco.
Hoyt-Wood Mfg. Co., 1277 Mission Street, San Francisco; 4401 E. 10th Street; 2146 E. 25th Street, Los Angeles.

WATERPROOFING
Johns-Manville Corporation, 159 New Montgomery St., San Francisco.
The Paraffine Companies, Inc., San Francisco, Los Angeles, Oakland, Portland, Seattle.

WATER SOFTENERS AND FILTERS
The Permutit Company, 440 Fourth Ave., New York City, and Balboa Bldg., San Francisco.

WATER SUPPLY SYSTEMS
Kewanee Water Supply System—Simonds Machinery Co., agents, 816 Folsom St., San Francisco; 520 East Fourth Street, Los Angeles.

WINDOW SHADES
William Volker & Co., 631 Howard Street, San Francisco; 2301 East 7th Street, Los Angeles.
W. & J. Sloane, 216 Sutter St., San Francisco.
D. N. & E. Walter & Co., 562 Mission St., San Francisco.

WINDOWS—STEEL, REVERSIBLE, ETC.
Crittall Casement Window Company, Detroit, Mich. Badt-Falk & Co., 74 Montgomery Street, San Francisco. F. T. Crowe & Co., 216 Walker Bldg., Seattle. R. H. Hoskins, 510 Hyde Bldg., Spokane. McCraken-Ripley Co., 61 Albina Avenue, Portland. F. T. Crowe & Co., 1177 Dock Street, Tacoma, Wash. Crittall Casement Window Co., 504 Union Insurance Bldg., Los Angeles.
Hauser Window Co., 1362 Harrison St., San Francisco.
Detroit Steel Products Co., Detroit, Mich.; factory branch, 417 Market St., San Francisco.
W. C. Lea, 653 South Clarence St., Los Angeles.

WIRING SYSTEM
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The ARCHITECT AND ENGINEER

JULY
1929

ANNOUNCING

AN ARCHITECTURAL EDUCATIONAL CAMPAIGN

AND SMALL HOMES COMPETITION

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A WIDE range of appropriate small home designs . . . a keener appreciation of the value of architectural services by home builders . . . these are the primary purposes that prompt the announcement of this unique competition. Prizes are offered for the most suitable small house designs with separate cash awards for educational articles on the importance and value of architectural services in designing and building a home.

The contest is open to architects, architectural draftsmen, students and any one qualified by training and experience in architectural design and rendering. Entrants may compete for either the general prize, the special awards, or for both.

THE PRIZES

First Prize: A three months independent trip abroad, first class, with all expenses paid, and $500 cash for tips and incidentals.

Second Prize: A two months trip abroad on tour or regular cruise with all expenses paid and $300 in cash for tips and incidentals.

Third Prize: A three weeks vacation trip anywhere in the United States, including expenses and $100 in cash for incidentals.

Ten Honorable Mentions: $50.00 each, in addition to a special leather copy of Richard S. Requa's latest work "Old World Inspiration for American Architecture."

Special Prizes: First, $100 in cash; four Honorable Mentions of $50 each.

The contest is to be judged by a committee of architects, selected by Midwest Chapters of the American Institute of Architects. Richard S. Requa, A. I. A., Professional Advisor.

Closing Date . . . October 15th, 1929

All entries must be received at 650 17th Street, Denver, Colorado not later than October 15, 1929. Programs fully outlining all requirements and conditions of the contest have been prepared. You can secure a copy by writing or wiring . . . .

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Who's Who in this Issue

William Mooser Company, architects and construction managers of the new Santa Barbara County Court House, pictured in detail in this issue, is a long established firm in San Francisco and well known throughout the state for having designed court houses in Contra Costa, Nevada, Calaveras, Stanislaus, and Tuolumne counties. also a number of county hospitals and school buildings and the Masonic Home at Decoto. The firm at present consists of William Mooser, Jr. and his son, William Mooser, III, the latter a brilliant artist as well as designer. William Mooser, II, has long been identified with important movements in the profession in San Francisco and vicinity and was at one time president of the San Francisco Chapter A. I. A. The company's offices are in the Nevada Bank Building, San Francisco.

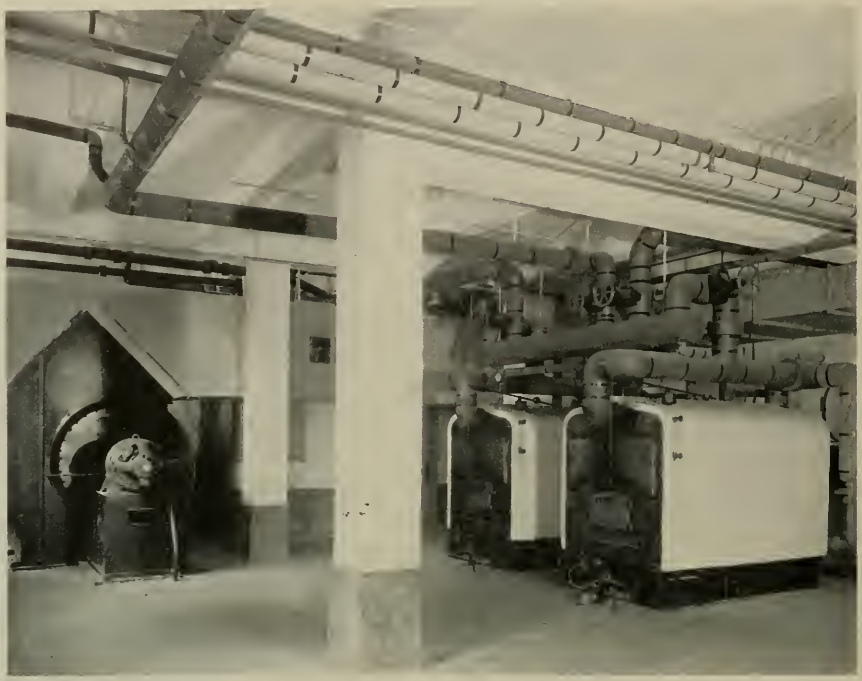
Albert J. Evers of Ashley, Evers and Hayes, who writes in this number about the Amendments to the State Architectural Law, is a native of Iowa. He is forty-one and a graduate in Architecture, University of California, Class of 1911. He studied under Messrs. Warren and Wetmore, architects of New York, later rounding out his schooling with a year of travel abroad.

Returning to San Francisco, Mr. Evers entered the office of Bliss and Faville and was engaged in important work which that firm handled just after the San Francisco earthquake and fire. Bliss and Faville's office burned out and was temporarily located in the St. Francis Hotel. Mr. Evers spent three and a half years with the Rockefeller Foundation and while so employed was engaged in work in Pekin and in this country, planning and constructing the Peking Union Medical College.

Mr. Evers served as secretary of the Northern California Chapter, A. I. A., from 1923 to 1928; secretary of the State Board of Architecture, Northern District, from 1926 to date; chairman of the State Association of California Architects, Northern Section, 1928-29, and was active in the conception and organization of the State Association. The firm of Ashley, Evers & Hayes has been practicing in San Francisco since 1921.

Allan Mac Donald, who writes of the record progress made in the construction of the new Magnin building, San Francisco, in the Engineering and Construction section of this issue, is senior member of the firm of Mac Donald and Kahn, construction engineers of San Francisco and Los Angeles. Mr. Mac Donald comes of Southern stock, his father a retired architect, and his brother, Kenneth Mac Donald, now practicing architecture in Los Angeles. The firm has been conducting a successful contracting business in San Francisco since shortly after the earthquake and fire of 1906.

Bliss and Fairweather, architects of the new Magnin building, San Francisco, have been associated since W. B. Faville retired from the firm several years ago. Prior to that time, Mr. Fairweather was chief draughtsman in the office of Bliss and Faville whose work included such prominent structures as the St. Francis hotel, Balboa building, State Building in the San Francisco Civic Center, main Bank of Italy building (won in competition), Southern Pacific office building, San Francisco, and Southern Pacific depot, Sacramento.



Boiler Room, showing Ventilating Fan and Heating Equipment, Santa Barbara County Court House, Santa Barbara, California
WILLIAM MOOSER CO., *Architects and Managers of Construction*

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The Heating, Ventilating, Plumbing, Finish Hardware, Water Softener Plant and Sprinkler System in Santa Barbara Court House

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VOLUME 98 JULY, 1929 NUMBER 1

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V. Pres. and Editor

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GARDEN VIEW CIRCULAR STAIR, COURT HOUSE, SANTA BARBARA
WILLIAM MOOSER CO., ARCHITECTS

The ARCHITECT AND ENGINEER

VOLUME XCVIII JULY, 1929 NUMBER ONE

THE COURT HOUSE BEAUTIFUL

By M. Mac Lean Finney

WHEN the Editor of this magazine asked me to write a description of the new Court House at Santa Barbara, I hesitated. Who can muster any enthusiasm about just another public office building? Every city has them; some height-limit monuments to American utilitarianism, structures so tall that only a jungle monkey in his highest palm tree could appreciate them; others so full of plate glass windows that it would drive a housewife mad trying to compute how much Bon Ami would be required annually to keep them clean; some with gloomy doorways that seem to groan: "Leave joy behind, all ye who enter here"; and filled with uninteresting corridors that inevitably land one just where he does not wish to go. But I had not then seen the Court House at Santa Barbara. How refreshingly different!

Santa Barbara is a Spanish city, not only by preference since the earthquake of 1925 forced it to largely rebuild, but by inheritance. For a hundred and fifty years it has been under the gentle but forceful influence of the old Santa Barbara Mission, most beautiful of the twenty-one established in California by the Jesuit Fathers. The *old* Court House, which lived usefully for fifty years, was a $60,000 pillared affair, in the form of a Greek cross, constructed of brick and iron on a stone

Photo by J. Walter Collinge

MAIN ARCH AND TOWER, COURT HOUSE, SANTA BARBARA

WILLIAM MOOSER CO., ARCHITECTS

foundation, and set squarely in the center of the grounds.

The *new* Court House is in the form of a "U" and occupies two entire sides of the Court House Square, with the Sheriff's Building and Jail on the third. Much of the garden space has therefore been saved for landscaping, which will be done by the County in accordance with the architect's plans. The planting will be in keeping with the stately palms and pines which date back half a century, the preservation of which has been one of the problems of this new building. Sunken gardens will occupy the old site.

The new Court House breathes a fine Spanish atmosphere both outside and in. The masonry walls backed with a rigid steel frame are tinted a warm mellow tone which stems the glare that would necessarily come if left a pure white. The right tone has been found in a buff-yellow of natural sandstone quarried in Refugio Canyon, twenty miles north of Santa Barbara city.

So large are the segments that stones nine feet long have been used on some of the arches, and so unique is this "find" that it contains fossil shells and remains which are plainly discernible through the tooth chisel finish. The low coping around the Court House Square is cut from natural boulders, also found in this vicinity.

In the offing, the Court House is a delightfully bewildering medley of white walls and red tiled roofs, of unexpected stairs and towers, of graceful arches and balconies, of charming windows and grilled gates, yet unostentatious and even simple as to line when one is close at hand, with long reaches of restful wall, and a most judicious use of ornament. Note, for example, the chaste heraldic design on the Jail building, the bit of molded concrete over the north wall, and the irregular ribbon of brick facings visible on the garden side. Or enjoy the three commemorative tiles set in the walls, two of them in memory of distinguished visitors to Santa Barbara, and one given by descendants of the Ortega family, showing the discovery of San Francisco Bay by Jose Francisco de Ortega in 1769.

Viewed from the hills, the building is tall enough to be an object of interest—two stories in the main wings, with basement and mezzanine, and five stories in the Sheriff's Building—but not tall enough to overshadow other buildings, or to give an unsightly irregularity of skyline to the city.

It has windows, plenty of them, but not set in serried and monotonous rows. They have green shutters, with a conventional, colored design painted upon them, and the casings are green, or they open on a balcony, or there is a bit of fascinating grill, or a brick-dust Venetian awning, or maybe a glazed red or green flower pot held in place with a graceful iron bracket. There are doors of course, but not like those at home, that Father used to make. They are called by the Italian name, "loggias," arched entrances many feet thick, mysterious and alluring, such as are common wherever Moorish architecture exists.

There are halls, but here referred to as "galleries" which awaken in one a new interest. By any other name, however, they would still be places where one loves to linger. So full of the unexpected! Underfoot: mosaic glazed inserts alternate with Palacio tile; at the bottom of the circular

GARDEN ELEVATION, COURT HOUSE, SANTA BARBARA
William Mooser Co., Architects

staircase, the Native Sons of the Golden West are to set a bronze seal in the floor when the building is dedicated; in the main entrance hall, the seal of the Board of Supervisors is done in tile, almost too beautiful to be walked upon. It is a large, eight-pointed Moorish star, the insignia of Saint Barbara, one of the early Christian martyrs for whom the old Mission, the city and the county all are named. Overhead: painted conventional designs ornamenting the pointed arches at the meeting of the second floor gallery wings, and lighting fixtures in the shape of old Spanish lanterns. On a level with the eyes: an antique oak balustrade, wrought iron gates, doors that are painted with odd and colorful designs, or else panelled anciently. The elevators, of which there are three, have unique metal doors, and even the fire hose is hidden behind glass that is colored. Oh, not halls which dismay, but galleries which enchant!

"The problem," explained the architect, "was to construct a modern public building that would reflect the rural Spanish feeling," a task which, though full of difficulties, was perhaps easier for William Mooser Company than for most architects, inasmuch as their experience dates back to 1852, when the first William came from Switzer-

FOUR INTERESTING DETAILS, EXTERIOR OF COURT HOUSE, SANTA BARBARA
WILLIAM MOOSER CO., ARCHITECTS

land and established the company. William II, among other achievements, has designed and built the Court Houses for Contra Costa, Nevada, Calaveras, Stanislaus and Tuolumne counties, a number of county hospitals, and, very lately, the new Masonic Home at Decoto. William III is a graduate of the Ecole des Beaux Arts of Paris, and writes "D.P.L.G." and "S.A.D.G." after his name—or would, if he were not modest.

Certainly these men have put into this building not only charm and utility, but that subtle something we call "soul." Take the Sheriff's Building, with its immense wood-grilled gates and huge iron bolts, a small door opening within the larger one, and in the lobby, dark-wooded cantilever beams protruding above a massive bench of concrete. Over the gates is a solemn inscription in Latin: "Learn justice from this warning."

Less suggestive of gloom is the Court loggia, with what, to architects, is a "molded arch" but to the uninitiated is a series of graduated arches, and over it the English inscription: "Reason is the life of the law." On the Hall of Records playful fancy is expressed in an odd door of wood and hammered copper, representing, in relief, an allegory of California history from mythological times to the present.

ENTRANCE TO HALL OF RECORDS, COURT HOUSE, SANTA BARBARA
William Mooser Co., Architects

Observe also the dignified formality of the building as it fronts the street—even as you and I when we face a critical public—and compare it with the pleasant abandon of the garden side (the arches, the stairways, the circular tower) even as you and I when the eyes of the world are turned the other way.

The interior is quite as expressive. The two Court Rooms, for instance, have an atmosphere of heavy grandeur with their

carved walnut woodwork, leather-covered, brass-studded doors, and richly ornamented ceiling in polychrome colors. Even the benches are covered with long strips of natural leather, and there is a rubber tile, "silence" floor. Inside the bar is a Hartford Saxony carpet, and at the windows, lovely drapes of velvet in gold design. The electric fixtures are of wrought iron and tall turned posts. Two large maps are painted on the walls, one early Spanish, the mythical California, and the other, a present-day map of Santa Barbara County. Overhead is a ribbed, vaulted ceiling, which apparently lets the blue sky and stars shine through.

With this, contrast the colorful room in which the Board of Supervisors will hold

MAIN CORRIDOR, COURT HOUSE, SANTA BARBARA
William Mooser Co., Architects

with deep amber shades, which will impart a soft glow on the tragedies enacted beneath. The Judge will come from his chambers on a level with the bench, and not, as usual, up a flight of stairs.

There are two handsome Court Rooms, each with four commodious offices or chambers, and a no-less-striking Law Library as a connecting link. Here, the rubber tile floor is in black and white, there are antique walnut tables, leather-covered chairs, and walnut bookcases with carved cornices its sessions. Here one may talk aloud and even be gay. It is a delightful surprise to find that this was the intention of the architect, for the rope dividing rail and iron staples may be taken out, the four Spanish desks or "varguenos," and the one high, old Mission type desk, which make the room an office, may be pushed to one side, and behold, it is a public assembly room, suitable for conventions or receptions. The five "desks," by-the-way are desks only when opened. When closed they are orna-

mental cabinet fixtures bearing no resemblance whatever to the modern monsters of that commercial name.

A wall flower could be particularly happy in this room, studying the great murals executed by the western artist who is so well known to us: Dan Sayre Groesbeck. That on the east wall, "The Landing of Cabrillo" is said to be the largest mural in the State, being seventy feet long. On the north wall is "The Building of the Santa Barbara Mission"; on the south wall—the first pathetic note—an allegory of the dawn of a new era, when the old Spanish order changed to the American; and on the west wall, the three occupations which have made the wealth of California: mining, stock raising and agriculture. Over the windows are representations of various coats-of-arms: of Mexico and Old Spain, of the Santa Barbara Mission and of the Franciscan Fathers. The beamed ceiling has been decorated in polychrome ornament by another famous artist, John B. Smeraldi. Even the floor tiles, with their ornamental inserts, carry out the cheerful intent of those who planned and wrought.

A versatility of detail is noticeable throughout the building, a fact all the more remarkable when one considers its size. Nothing is duplicated. Every room has its own individuality. In one office, for example, all the wood work is panelled, and the tops of the counters are of battleship linoleum. In another, the counters are faced with tile and there is an iron grill above. In a third, there is a domed skylight decorated in a cartwheel design of painted ornament, and for night lighting, a Spanish lantern (imported) of glass and wrought iron, with a number of smaller lanterns hung elsewhere from the ceiling. One of the most unusual effects is an eight-pointed star of colored glass, each point

GARDEN VIEW, COURT HOUSE, SANTA BARBARA
William Mooser Co., Architects

tipped with a tiny star, as perfect as the large one.

The architect would seem to possess a veritable passion for detail. Each appointment is perfect. He has designed *practical* things, like the storage rooms and garage in the basement. He has designed *imposing* things, like the main entrance, or "Anacapa Arch," with its carved pillars and figures of Justice and Ceres; its plaques representing agricultural and industrial wealth; the coat-of-arms of the County Board of Supervisors; and the Spanish inscription, to the effect that "God made the country, and man, the town." There is also an exquisite fountain, not yet unveiled, executed by Ettore Cadorin, Italian sculptor of Santa Barbara, whose work needs no introduction. He has called this group: "The Spirit of the Ocean."

The architect has likewise designed the *needful* things, multitudinous and various: the carpets, the drapes, the Venetian sailcloth awnings, the lighting fixtures, the furniture, the hardware—all the minutia which cannot be catalogued. Moreover he has been the "Manager of Construction," a colossal task when one considers that this is one of the largest of Court Houses, and that everything has been done by sub-contract.

FIGUEROA STREET ENTRANCE, COURT HOUSE, SANTA BARBARA
William Mooser Co., Architects

The area of the building may be appreciated when it is known that 16,000 cubic yards of excavating were required for the foundation; that 10,000 cubic yards of concrete were used in the construction work; that practically 1,000,000 board feet of form lumber were required; that 30,000 pounds of form wire were used; also 360 tons of reinforcing steel; 175,000 feet of reinforcing mesh; 49,000 square feet of reinforced concrete roof slab; 400 kegs of nails; 1500 tons of structural steel; 140,000 square feet of reinforced concrete floors; approxi-

VIEW FROM TOWER, COURT HOUSE, SANTA BARBARA
William Mooser Co., Architects

ASSEMBLY GALLERY, COURT HOUSE, SANTA BARBARA
William Mooser Co., Architects

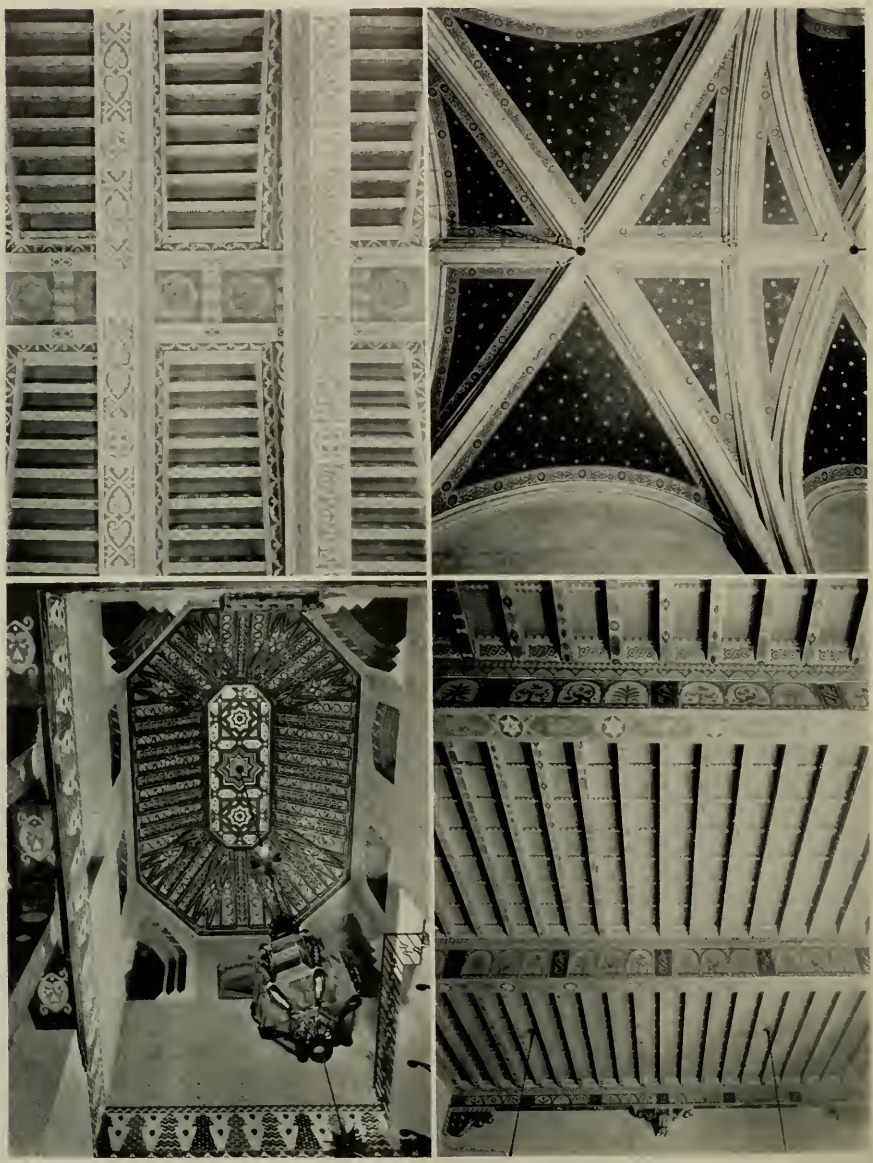
mately 80,000 square feet of finish cement and 60,000 square feet of floor tiles; 25,000 square feet of membrane waterproofing for floors and walls; 50,000 square feet of roof tile, and 50,000 square feet of asbestos asphalt to waterproof under the roof tile.

The two main wings extend 370 feet on each of two streets, and 165 feet on the third. The Mirador, or clock tower, is 114 feet from the ground, and the Sheriff's Lookout Tower is 92 feet high. There are approximately 140,000 square feet of floor area and 2,450,000 cubic feet of building. Construction has covered two years.

I surveyed the building from the four sides of the Court House Square, and then from a distance, trying to determine the outstanding point of interest. It was in vain. The Clock Tower looks complacently and benignly down upon critical taxpayers and admiring visitors as if to say: "You never dreamed that I would be half so lovely, did you?" And the Lookout Tower, appended to the fifth story of the Sheriff's Building, looks up to the sky as if to say: "Lord, I thank Thee that I am not as most Court Houses are." Yet the diversified features of the structure make so perfect a whole that no one attracts attention to itself, away from the others. At night the flood lights of 100 projectors, each with from 300 to 500 watt lamps, make the building appear like a veritable fantasy.

GATES TO MAIN LOBBY, COURT HOUSE, SANTA BARBARA
William Mooser Co., Architects

The wonder is that out of a pencil and paper, out of a clay model and a dream, the architect could have evolved Beauty and given it such a body! Like a photograph which can never catch the elusive "you," so no words can quite do justice to the Santa Barbara Court House Beautiful.



SANTA BARBARA COUNTY COURT HOUSE. *Upper Left*, CEILING IN ASSEMBLY ROOM; *Upper Right*, CEILING IN LIBRARY; *Lower Left*, SOFFIT MAIN LOBBY STAIR HALL; *Lower Right*, CEILING IN SUPERIOR COURT ROOM

FOUNTAIN AT MAIN ARCH, COURT HOUSE, SANTA BARBARA
William Mooser Co., Architects

BUILDING of COURT HOUSE WITHIN ARCHITECTS ESTIMATE

By: William Mooser, A.I.A.

THE earthquake that occurred on the 27th day of June, 1925, destroyed many buildings in the city of Santa Barbara. The county's loss was the court house, hall of records, jail buildings and general hospital. The Board of Supervisors met immediately following the disaster and within four days resolved to rebuild all the buildings and appointed William Mooser Company of San Francisco, as the architects, with orders to proceed at once with the necessary plans. All of these buildings have been built and completed, and are now occupied by the various county officials and the business of the county is going forward in the usual way.

Our firm was not only appointed architects but was made managers of construction.

The architects were given the confidence of the Board of Supervisors with instructions to carry out the work of designing with full superintendence and inspection, also the designing of all the furnishings and equipment and to otherwise assume responsibility for erection and completion

ASSEMBLY ROOM, COURT HOUSE, SANTA BARBARA
William Mooser Co., Architects

MURAL IN ASSEMBLY ROOM, COURT HOUSE, SANTA BARBARA
William Mooser Co., Architects

SUPERIOR COURT ROOM, COURT HOUSE, SANTA BARBARA
William Mooser Co., Architects

MURAL, "BUILDING OF THE MISSION," IN ASSEMBLY ROOM, COURT HOUSE, SANTA BARBARA
William Mooser Co., Architects

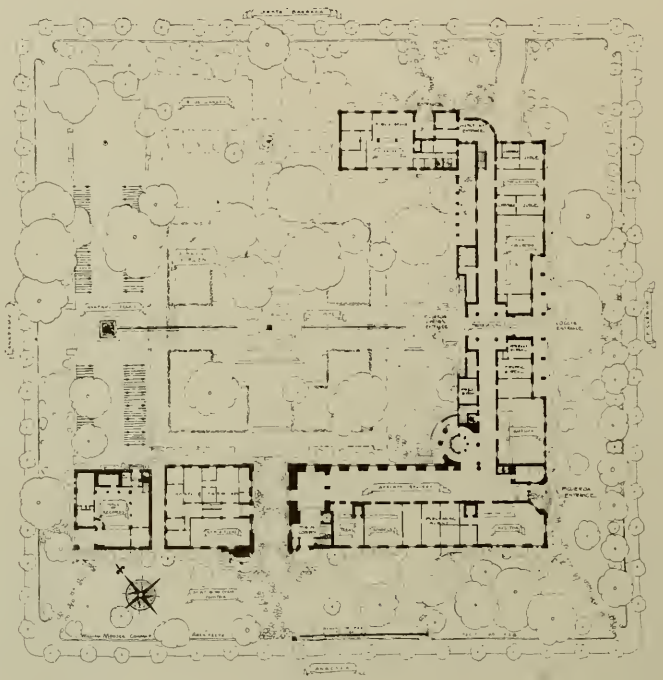
DOORS TO COURT ROOM CORRIDOR, COURT HOUSE, SANTA BARBARA

MADE BY SUNSET LUMBER COMPANY, OAKLAND

Photo by J. Walter Collinge

MAIN ARCH, COURT HOUSE GROUP, SANTA BARBARA

WILLIAM MOOSER CO., ARCHITECTS



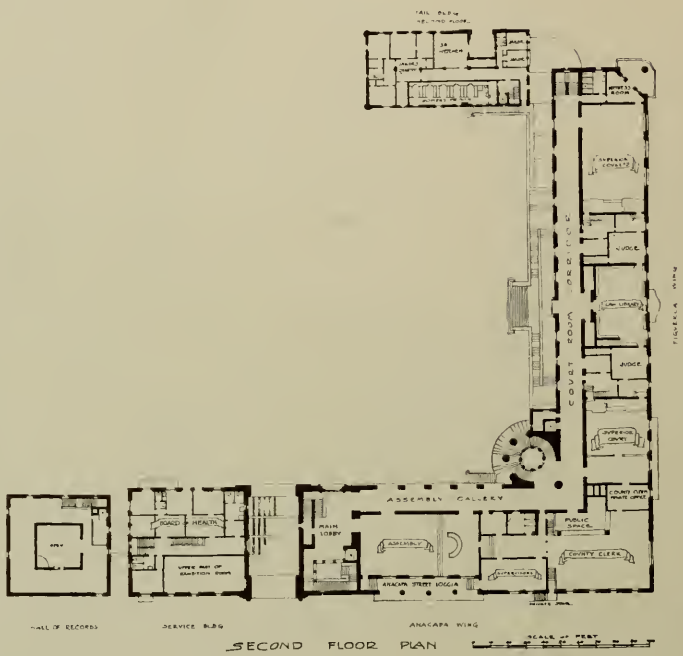
PLOT PLAN, SANTA BARBARA COUNTY COURT HOUSE, SANTA BARBARA

WILLIAM MOOSER CO., ARCHITECTS

Photo by J. Walter Collinge

JAIL ENTRANCE, COURT HOUSE GROUP, SANTA BARBARA, CALIFORNIA

WILLIAM MOOSER CO., ARCHITECTS



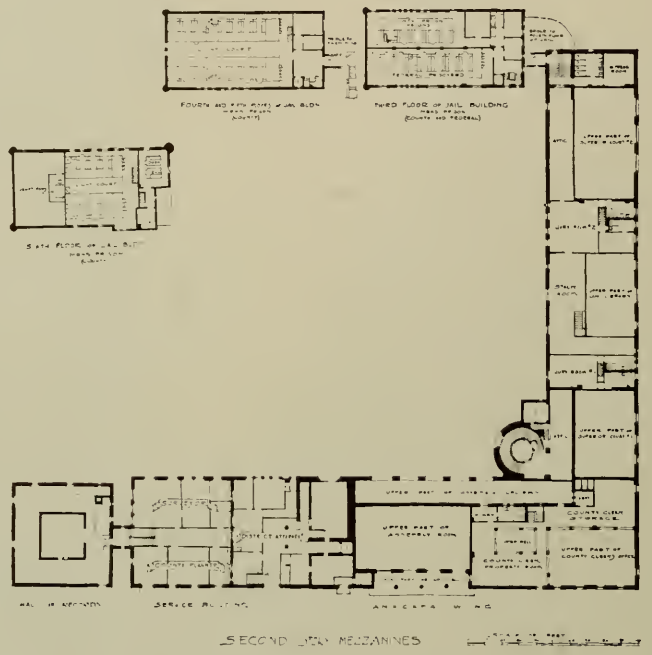
PLAN, SECOND STORY, COURT HOUSE, SANTA BARBARA

WILLIAM MOOSER CO., ARCHITECTS

Photo by Obert

STAIR TO CLERK'S OFFICE, COURT HOUSE, SANTA BARBARA

WILLIAM MOOSER CO., ARCHITECTS



PLAN, SECOND STORY MEZZANINE, COURT HOUSE, SANTA BARBARA
WILLIAM MOOSER CO., ARCHITECTS

Photo by Mott Studios

SMALL ENTRANCE TO MAIN LOBBY, COURT HOUSE, SANTA BARBARA

WILLIAM MOOSER CO., ARCHITECTS

Photo by J. Walter Collinge

BALCONY TO SECOND STORY, COURT HOUSE, SANTA BARBARA

WILLIAM MOOSER CO., ARCHITECTS

Photo by Mott Studios

LOGGIA ENTRANCE, COURT HOUSE, SANTA BARBARA

WILLIAM MOOSER CO., ARCHITECTS

Photo by Mott Studios

GRILL, MAIN GARDEN ARCH, COURT HOUSE, SANTA BARBARA

WILLIAM MOOSER CO., ARCHITECTS

Photo by Mott Studios

MAIN LOBBY, COURT HOUSE, SANTA BARBARA

WILLIAM MOOSER CO., ARCHITECTS

Photo by J. Walter Collinge

ROSE WINDOW, MAIN CORRIDOR, COURT HOUSE, SANTA BARBARA

WILLIAM MOOSER CO., ARCHITECTS

Photo by Mott Studios

GARDEN ENTRANCE AND CORRIDOR, COURT HOUSE, SANTA BARBARA

WILLIAM MOOSER CO., ARCHITECTS

Photo by J. Walter Collinge

CIRCULAR STAIR, COURT HOUSE, SANTA BARBARA

WILLIAM MOOSER CO., ARCHITECTS

Photo by Mott Studios

GATES TO ASSEMBLY GALLERY, COURT HOUSE, SANTA BARBARA

WILLIAM MOOSER CO., ARCHITECTS

Photo by Obert

ASSEMBLY GALLERY, COURT HOUSE, SANTA BARBARA

WILLIAM MOOSER CO., ARCHITECTS

Photo by Obert

HALL OF RECORDS, COURT HOUSE, SANTA BARBARA

WILLIAM MOOSER CO., ARCHITECTS

Photo by Mott Studios

CIRCULAR STAIRWAY, COURT HOUSE, SANTA BARBARA

WILLIAM MOOSER CO., ARCHITECTS

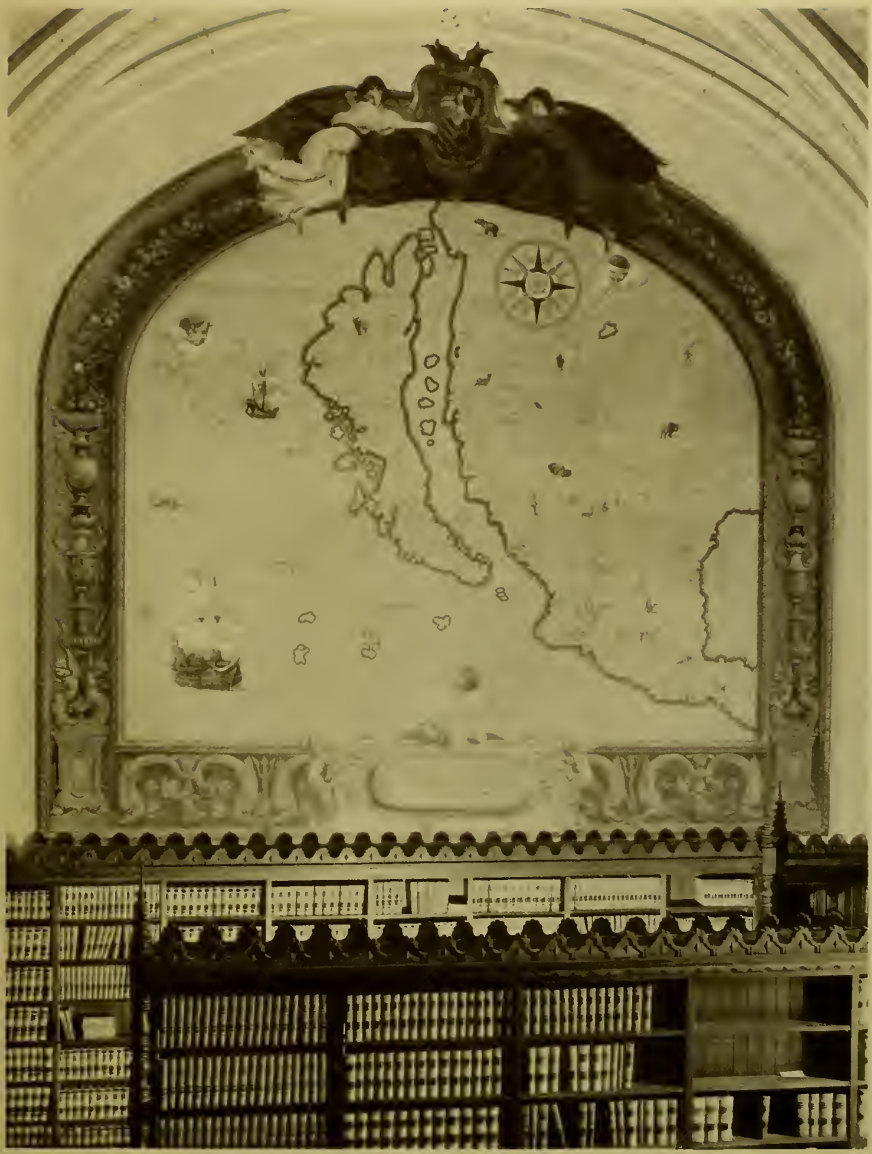


Photo by Mott Studios

LIBRARY, COURT HOUSE, SANTA BARBARA

WILLIAM MOOSER CO., ARCHITECTS

of the buildings. The architects were also authorized to select sculptors, painters and decorators and whomsoever it was found necessary to carry out the work as co-artists.

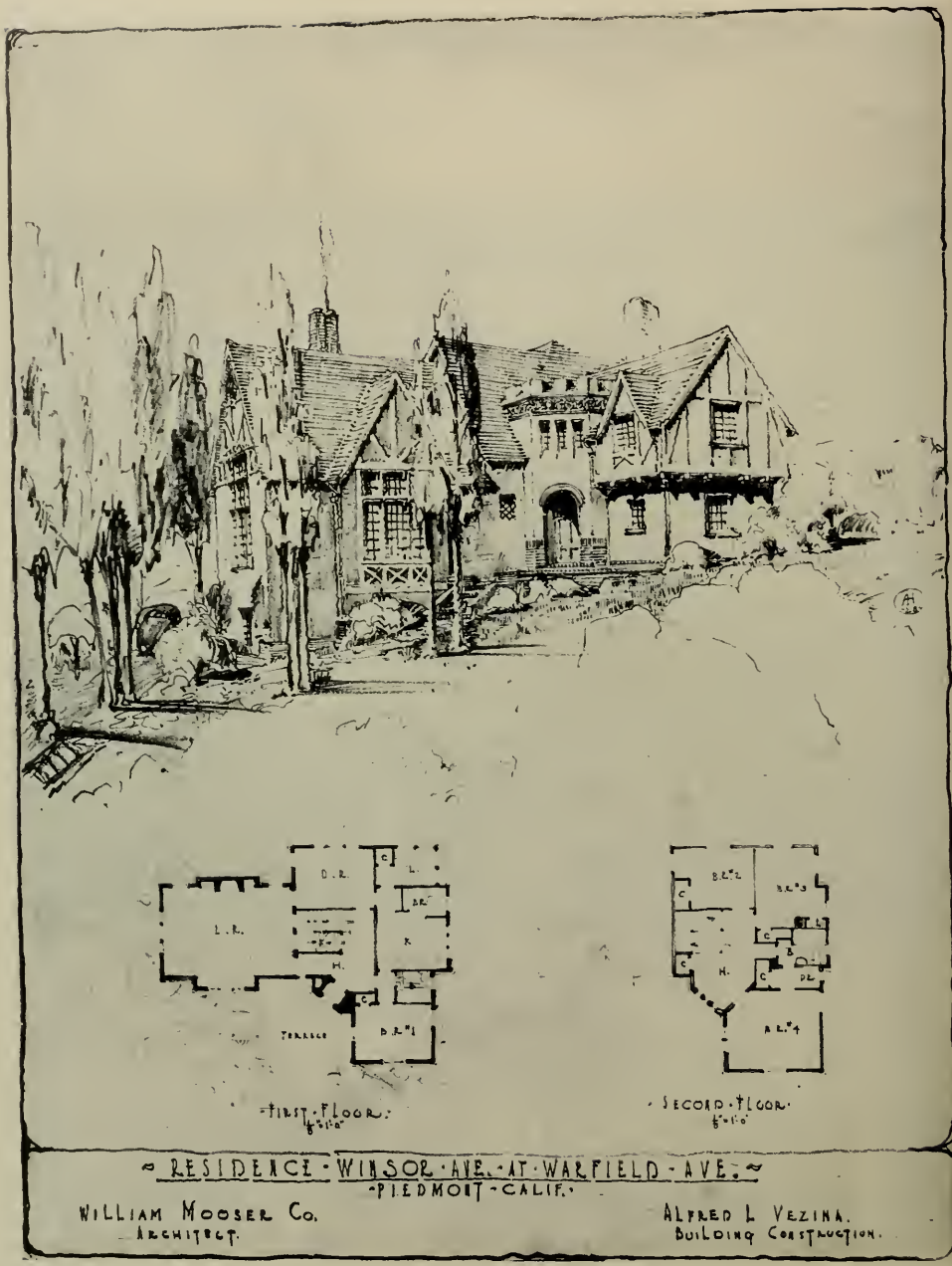
The cost memorandum given by the architects at the commencement of building the court house, hall of records and jail was 50c per cubic foot, not including furnishings. The buildings complete cost $1,500,000 or approximately 47c per cubic foot, with an additional 11c per cubic foot for furnishings and decorations.

To William Mooser, Jr., architect, Ettore Cadorin, sculptor of Santa Barbara, Jno. B. Smeraldi, painter and decorator of New York and Los Angeles, John MacQuarrie, artist of San Francisco, Dan Sayre Grosbeck, mural painter of Santa Barbara and George Hyde, interior decorator of San Francisco, is due the credit for a great part of whatever may be thought of the building's success.

To George Aitken Batchelder, citizen of Santa Barbara, who, by his public spirit and very appreciative help, many things were accomplished.

The general hospital is a one story and part basement building constructed of concrete and portions of it remaining were remodeled and an additional story added by means of a steel frame, with steel and concrete floor and roof trusses built entirely independent and surrounding the entire old structure.

GARDEN ARCH OF REFUGIO SANDSTONE, COURT HOUSE, SANTA BARBARA
Quarried and Executed by Bly Stone Company, Los Angeles



RESIDENCE · WINSOR · AVE. · AT · WARFIELD · AVE. ·
PIEDMONT · CALIF.

WILLIAM MOOSER CO.
ARCHITECT

ALFRED L VEZINA.
BUILDING CONSTRUCTION.

LIVING ROOM, RESIDENCE ON WINDSOR AVENUE, PIEDMONT
WILLIAM MOOSER CO., ARCHITECTS

To C. L. Preisker of Santa Maria, chairman, Wm. L. Talbott of Lompoc, Thos. Dinsmore of Montecito and Sam Stanwood of Santa Barbara, members of the Board of Supervisors, during the entire construction of the buildings, is extended the writers' deepest appreciation.

These men by their foresight and knowledge of Santa Barbara's historical background, worked in complete harmony with the architects for more than three years. This is, indeed, very unusual, and is deserving of great appreciation by artists in particular and the public in general for it is a matter of congratulation to have had such men in office—men possessing vision and judgment that contributed to the happy completion of the work.

INSTITUTE FOR EDUCATIONAL STANDARDS

TO raise the educational standards for architects and encourage high ideals in architectural training, the American Institute of Architects has instituted a program of nationwide cooperation with universities, libraries, art and technical schools, according to Prof. William Emerson, chairman of the Institute Committee on Education.

Chaotic conditions resulting in great diversity in the length and scene of the courses leading to a degree in architecture exist in schools throughout the country, Prof. Emerson, who is head of the Department of Architecture of the Massachusetts Institute of Technology, declares, adding that one of the objects of the work undertaken by the Institute is to clear up this situation, which tends to lessen the prestige of the architect and the confidence of the general public.

"Achitectural degrees vary as the colors of leaves of the trees in the fall," says Prof. Emerson. "There are degrees of every kind, based on every kind and length of college courses. The Institute will endeavor to determine the basic essentials and the degrees which can significantly express these different categories of training.

"Short courses in architecture are misleading to many students. The tendency in the high schools, in the Y. M. C. A.'s and in correspondence schools to offer to those who have not judgment enough to distinguish, what are called courses in architecture, is to be deplored. They are a very inadequate alternative for an architectural education. They mislead the beginner, they suggest an equipment which is not fulfilled and a very nice differentiation between what is vocational and what is professional is needed in order to accomplish any real result in that field."

A wealth of scholarships are open to the architectural student today, Prof. Emerson points out. In addition, the Institute, through an appropriation of the Carnegie Corporation, pays all the expenses of representative professors from colleges throughout the country at the summer courses of the Art Institute at Chicago.

Describing the Institute's plan of cooperation with the American Library Association, Prof. Emerson declares that its object is to place in the principal libraries of the United States a collection of approved books on architecture, lists of architectural reading, and an assistant capable of giving advice to those pursuing a definite course of study. Its purpose is to bridge the gap between the laymen's appreciation of what is meant by architecture and what the architect means by it, and to provide guidance for young architects, architectural draftsmen and craftsmen wishing to supplement their training in this field.

During the past year representatives of the Association of Collegiate Schools of Architecture have prepared a list of the best books on architecture, Prof. Emerson states, and from these the smaller list which will be circulated was selected by vote.

In its report to the Institute, the Committee on Education says: "On the part of the faculties of the schools of architecture there is a very genuine realization of their great and growing responsibility. The Institute has recommended the lengthening of the course in architecture, and our deliberations with the members of the Association of Collegiate Schools of Architecture have shown that the faculties generally are in ac-

cord that more than four years are required for the training of the architect.

"In 1906 the Institute's Committee defined an architect as 'one ranking in the class of men of culture, learning and refinement, differentiated from the others of his class solely by his functions as a creator of pure beauty, as an exponent through material forms of the best secular, intellectual and religious civilization of his time, and as an organizer and director of manifold and varied industries and activities.'

"It is hardly possible to devise any scheme of education that would fit all students to meet this standard during the accepted period of college training of four or five years, but this definition is an ideal toward which to work.

"The object of the school should be to so open the eyes of the student on the whole horizon of human learning and culture that he may at graduation realize his short-comings.

"It must be left to the student as an adult in the practice of his profession to complete his education. The schools are 'nurseries of the imagination.' Design is the fundamental on which the student must be taught to guide himself in his creations. He must know the theory of construction and the use of materials, and he must be so trained as to have facility and fluency in the presentation of his ideas.

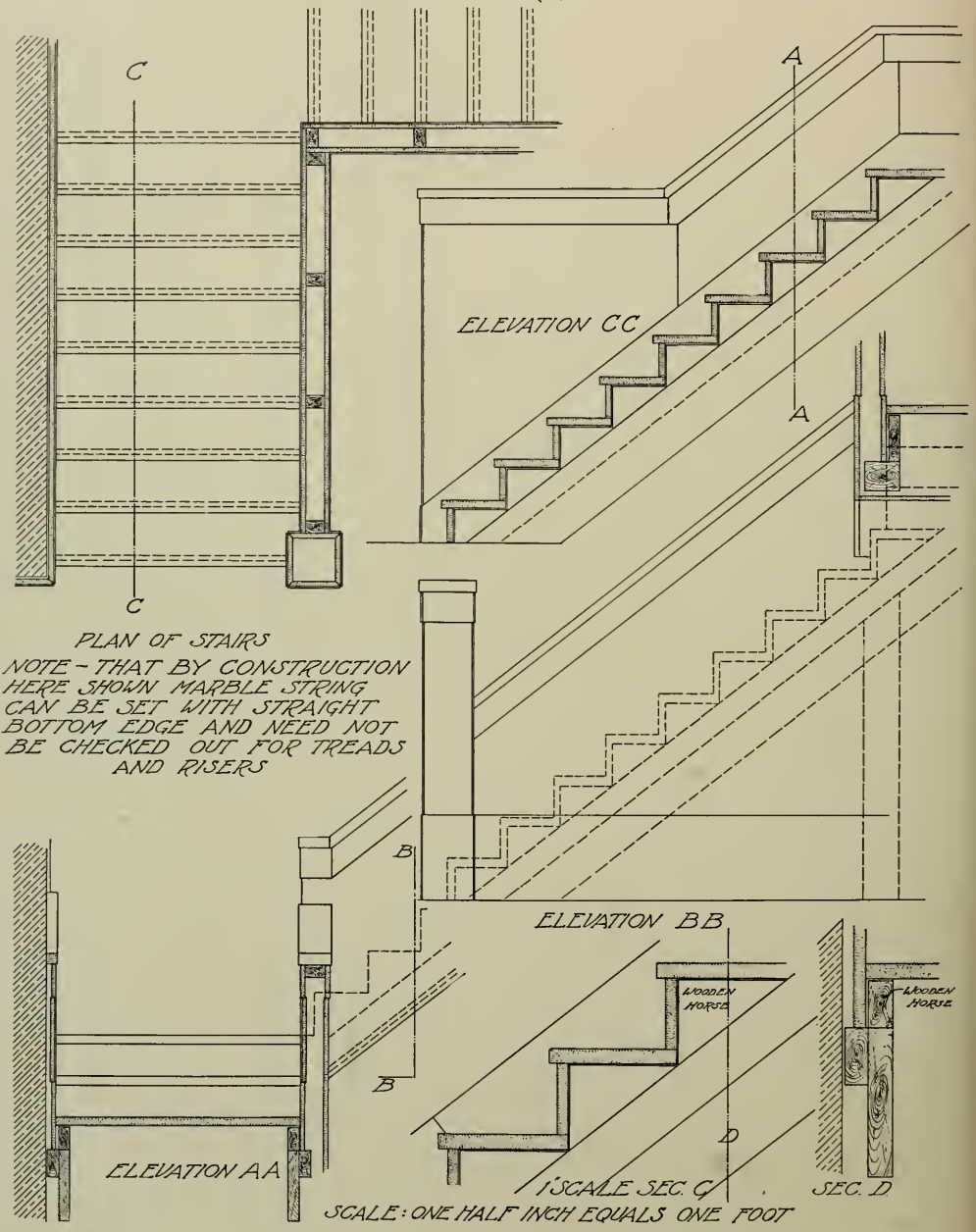
"It is our belief that it is unwise to standardize teaching methods. Organization, conformity to accepted requirements, and good intentions will not make a school. Environment, atmosphere, the personality of the staff, are intagible but essential features, and a great teacher is a law unto himself.

"Definite effort should be made to promote during the years of active service, and particularly during those years that follow immediately upon college studies, the continued development of those imaginative ideas that comprised so high a percentage in time and in value of our school and college effort.

"An even closer relation should exist between the office and the school, to the end that there may be a better understanding between these two essential elements in our professional education, and that they may better co-operate in perfecting that balance between theory and practice that is needed to the best accomplishments in architecture."

DETAILS OF CONSTRUCTION

MARBLE TREADS, RISERS, BALUSTRADE, WALL STRING AND WAINSCOT ON WOODEN FRAME



Courtesy Vermont Marble Company

SAN FRANCISCO PUBLIC LIBRARY

AMENDMENTS to the ACT to REGULATE the PRACTICE of ARCHITECTURE in CALIFORNIA

By Albert J Evers, A.I.A.

ARCHITECTS of California may congratulate the public, the profession and themselves on the revisions to the Act to Regulate the Practice of Architecture which were passed by the last session of the Legislature and signed by Governor Young on April 9 of this year.

It has long been realized that the law, in force since 1901, should be rewritten or amended but, due largely to inertia and lack of organizaton, nothing was accomplished until 1928, when the State Association of California Architects was formed, with one of its primary objects the fostering of a movement to amend the act.

Since its inception the Association has shown what a united effort can do, and furthermore gives promise of being a most valuable asset to the profession; it has formulated a program which, if carried out, will do much toward improving conditons of the practice of architecture and the service which architects can render to the public.

By means of the splendid co-operative effort of men from all parts of the state, the act of 1901 was carefully studied in detail and finally almost completely rewritten, its wording greatly simplified, its provisions made more direct and, most important of all, provision was made for enforcement of the act by the Board. The law will become effective on or about August 15, or 90 days after the date of the Legislature's adjournment.

A review of its various features will probably be of interest to those who have been unable to study the full text and compare it with the existing law. The most important change in Section 1 is that the name of the State Board of Architecture is changed to California State Board of Architectural Examiners. There has always been some confusion in the minds of those not familiar with the activities of the Board, in thinking it a part of the Department of Public Works. The new name clearly shows the function of the Board and indicates to the public that a specialized training and knowledge is necessary for attaining certification.

Section 2 is essentially the same as in the present act, the wording having been slightly changed to clarify the meaning.

Section 3 is concerned mostly with the seal of the Board, meetings, rules and regulations, meeting dates and enlarged powers of the Board. District Boards are authorized to prosecute all persons guilty of violating the provisions of the act, they are empowered to employ legal counsel, inspectors, investigators and assistants and to incur any expense that may be deemed necessary. This radical departure from the provisions of the existing Act will make a considerable difference in the affairs of the profession in California. Formerly prosecutions were dependent wholly upon the activities of district attorneys, who were not always able or willing to devote their time to this particular type of law-enforcement.

There is also a change in this Section regarding the issuance of certificate, which will under the amendments, be issued directly by the State Board of Architectural Examiners instead of the Secretary of State.

Certificates are issued in two stages, the first being a provisional certificate issued by District Boards, and final certificate being issued by the State Board at their annual meeting, giving the Board a chance to review the status of provisional certificate

holders, should any derogatory information have been filed against them.

Section 4 provides that the certificates need be filed only with the county recorder of the county in which the architect has his principal place of business. This dispenses with the annoying provision of the old act, which required that certificates be recorded in every county in which the architect practiced.

In Section 5, the punishment for violation of the act is provided, as before, at a fine of from $50 to $500, and adds the possibility of six months' imprisonment in addition to the fine. It is well to note carefully the wording of this part of the act, in forbidding that any person *"practice architecture* . . . without a certificate . . . or to indicate . . . that he is qualified to practice architecture." This provision practically does away with all the well known "architectural bootleggers" titles, such as "Architecture by etc., etc."

This section contains also a very important provison which requires any person not an architect to definitely state to a prospective client, in writing, that he is *not* an architect *before* accepting employment or commencing work. Bona fide structural engineers are exempted from these provisions, as are also cabinet makers and others under certain well defined conditions only related to store fronts and alterations, cabinet work, etc.

This Section also provides for architects to form partnerships with others who are not architects, provided there is nothing ambiguous in the designation of titles and that the name of the architect-member of the partnership appears as such on all instruments of service.

This important section also provides for temporary certificates for non-residents, making such permit fees considerably higher and restricting the permit to single stipulated structures.

In Sections 6 and 7 it is provided that the annual license fee shall be $10. The broadened scope of the Board's activities will call for funds which could not possibly be realized from the $5 yearly fee now in force.

There is also in this section a proviso for creating special deposit funds for the District Boards which will prevent their use for other purposes.

Section 8 deals with the revocation of licenses, enumerating the possible causes and method with directions for procedure.

Section 9 defines the terms Architect and Structural Engineer.

A study of the amended act discloses that there has been little change from the *intent* of the original law, but that there has been a great increase in the powers of the Board for enforcement and in the classification of terms and wording.

Adequate education and qualification now become a prerequisite for all who wish to practice architecture; improved standards of practice should become general and the State at large should greatly benefit by better designs and buildings.

OBTAINING the CO-OPERATION of ARCHITECTS

By Foster Gunnison

THE old, old question: how to obtain the co-operation of architects. Who are these rare birds whose co-operation we so humbly crave? Why is it that conditions are not reversed so that they grovel in the dirt beneath our feet seeking our co-operation? Tonight I wish to set forth an entirely new theory for the development of better co-operation between Architects, Engineers and Manufacturers. I call it the "Historical Background Theory." We frequently hear the engineer grumble because the architect lacks a practical sense, and the architect becomes impatient because the engineer has no aesthetic appreciation. The manufacturer curses both these gentlemen, because they will not buy his products. To bring these three musketeers together we arrange golf tournaments, organize clubs and deliver speeches on how one must help the other. Everybody is happy until the architect refuses to buy a certain product because of its texture perhaps, and the engineer says it is not strong enough. The manufacturer s h o u t s, "Co-operation—H——l," and our whole scheme falls into utter collapse.

Things equal to the same thing are equal to each other; therefore, if we can discover some great basic truth and induce our three musketeers to learn that truth, we shall awake to find that they each have exactly the same point of view and the helping-hand will replace the shallow cry for co-operation.

In my search for the truth I studied the history of the world—at first in vain, and then, suddenly I realized that I had the whole truth right before me. I read how people lived and died, how they fought and worshipped, and in each case I found they always had homes and temples and tombs that seemed exactly suited to their requirements. There seemed to be cycles when culture advanced to great heights and would then decline. Whenever culture advanced it seemed to find expression in new types of buildings. Some man had to be charged with responsibility for erecting each of those buildings and as is the case today, if his training was sufficient to make him successful in interpreting the requirements of the p e o p l e his building was greatly admired, and he became an architect much sought after.

The fundamental training of our present day architects is based upon an historical background, because it is by learning how the great architects of the past approached problems, which were new to them, that the men of today learn how to approach our modern problems.

This background, this great historical background, which is taught to our architects I believe should also be taught to our manufacturers. This great truth will provide the point of view; the one thing, to which we, as one of the musketeers, can become equal and thus equal to the other two.

Curiously enough I find that my new theory is not new at all—it is as old as history itself. Exactly what I am talking about now happened in each age of cultural advancement. It was one of the elements of cultural advancement. The architects called it collaboration. Let us drop the impractical and high-pressure methods of co-operation and adopt the more intel-

*An address at the annual dinner of the Producers' Council, affiliated with the American Institute of Architects.

ligent methods of collaboration. You wonder how this can all be accomplished. Do not attempt to memorize the history of the world. You can very easily and quickly, get a comprehensive understanding of the major trends of thought of each age. I should start by insisting that the president of your company read the "Significance of the Fine Arts," which is officially published by the American Institute of Architects, and also, perhaps, "The Background of Architecture." Unless your president be stupid, he will at once realize that the first thing he must do is to insist that every important member of his organization also read these books. Your company will immediately start to "collaborate" with architects.

In those books you will read how each great cycle of cultural advancement had its own peculiar style of Architecture, such as Greek, Roman, Gothic, Early American. As each new culture advanced beyond the previous one the requirements became more complex.

By way of understanding let us analyze our present cycle. America is now emerging from a non-cultural era. After the Civil War we were left poverty stricken. It became necessary to earn money. We made the great economic discovery that a man could produce with his hands just about what he consumed and had little left. By the use of machinery he could produce a great deal more than he consumed, and what we had left over was his accumulated wealth. We, therefore, started to lay the foundations for our machine-age. We worked hard and had no time for study and travel. The luxuries of an advancing culture were unknown, and during this period our country was plunged into the lowest depths of artistic degradation that I have been able to discover in any civilized country since the dark ages. Before the dawn of the twentieth century the eyes of a few had started to look beyond our confined horizon. Higher education and travel were the first fruits of the prosperity of our industrial era. We started to learn the culture of older countries and laid the foundations upon which to expand our own. What we learned we did not demand as part of our everyday life.

It was not until the great shock of the World War that as a nation we became inspired to expand. The young men from the country and cities moved about and together, with the call to arms. They saw and felt, and tasted of the things that they had merely read about in their narrow ruts at home. With the war over a new desire to broaden life entered every home. Today the better buildings for schools, churches, hospitals, libraries and banks are but the outward manifestation of better institutional ideals. Finer residential architecture is the outward expression of greater culture within. The architect is called upon to weave the fabric which clothes our new culture. In trying to adapt ourselves to new conditions we have developed the so called "period design." One man thinks he can live more happily in a Spanish house, while another wants an English, or perhaps, an Early American type. Many think that this is taking a step backward but can you not see it is merely to bridge that ghastly gap that was left by the Civil War that we are now turning our eyes backward to the handicraft of our progenitors to study their methods of approach. The present will always grow out of the past, because progress is evolutionary.

In our business life we already have the modern setback skyscraper to meet new requirements of health in congested areas. Our architects are using the facilities of machinery in the creation of proper forms and masses so that these buildings may be beautiful to look upon.

While there are constant changes in the requirements of our homes I do not believe there will be any radical change in its form until perhaps we find that the best place to store our aeroplanes is on the top of flat roofs. As each new requirement of life appears our architects will be called upon to give it shelter. Rather than to attempt to ignore the architect we should do well to be guided by him. In matters of building and the products for buildings I should prefer the opinion of our ten leading architects to the opinion of one hundred and ten millions of people, because the work of

those leaders today will mould the taste and desires of our people tomorrow.

In analyzing the architect, as an individual, I find that because of his background he is frequently one of the outstanding men in his community. He is invariably a gentleman and quite often has a charming and magnetic personality. It is natural among gentlemen to have a very high code of ethics. If, as manufacturers, we should be influenced by the code of ethics of the American Institute of Architects we cannot go astray. As producers we are fortunate indeed to have our destinies so largely in the hands of such an honorable and creative profession. I receive renewed inspiration each day from my association with architects like Delano, Howells, Hirons and, equally, a host of others.

When our firm started in business we had nothing in our pockets but opportunity. However, there always seemed to be plenty of that. No one could be any more deeply grateful today than we are for the splendid help the architects have given us.

To win the support of the architects your organization must be built upon a sound administrative basis. Your salesmen must reflect the character and integrity of your firm. Never pay graft. While I presume it may exist, I can say without question that I have never had an architect mention graft to me. If one ever does I shall blame myself, because I shall know that there is something in my face that tells him I am dishonest also. If any of your salesmen come to you with stories of graft—fire them, they discredit you.

Design your products so that they really meet the architects' requirements. Your ability to do this will be in direct proportion to your knowledge of what the architect is seeking to accomplish. Follow the major movement of style rather than the minor movement of fad. Let economy result from a studied elimination rather than from a poverty of imagination. Avoid high-pressure and cheap salesmanship. Do not give lunches, cigars or salestalks. Be brief and deal only with facts. Remember that the architect can delegate but very little responsibility to others. His time is extremely valuable and no salesman has the right to waste it. Probably the greatest reason why it is so hard to get in to see the architect is because, being a gentleman, he does not wish to offend the salesman by cutting short a conversation. His secretary finds it necessary to save him from embarrassing situations by protecting him from that vast army of improperly trained salesmen. If your salesmen, your firm or your product is not equal to a specific situation do not be afraid to say so, even if you have to recommend a competitor. Never sacrifice the continued goodwill of an architect for the sake of getting a contract. Through books and architectural magazines learn to know and to recognize and enjoy the work of the leaders of the profession. The more you drink of this knowledge the greater will become your thirst.

Gentlemen, you represent this nation's foremost producers of the various electrical, mechanical and structural products. You are fortunate indeed to be affiliated with the American Institute of Architects and to be meeting here in Washington with the leaders of the architectural profession. They are eager to learn your point of view and I am sure that you are eager to learn theirs.

If my contention that there should be a common point of view, based upon historical background, seems too philosophical, or idealistic, and too impractical, consider how empty your other phases of life would seem without background. Traveling in strange lands you are always happy to meet the man from home for, poor though he may be, there always exists the hometown ties that bind. The clanishness of nationalities, of religious or fraternal orders is born out of the background of tradition.

You may argue that because you manufacture a simple product like nails, which have exactly the same quality and price as your competitors, that there is nothing for you to gain in learning the architect's point of view. Did you ever consider that where things are absolutely equal as to quality and price it is but human for the architect to want to help the man he likes? You will make it easy for him to like you if you have made an honest effort to gain his point of view.

MY EUROPEAN IMPRESSIONS

By C. O. Clausen, Architect

XVII—COPENHAGEN

THE capital of Denmark is not architecturally handsome. Many of its streets are narrow and quaint, but all are exceptionally clean. The Exchange Building, dating from 1619, built in the Dutch Renaissance style is an admirably proportioned structure and has a most peculiar tower formed of four immense copper dragons with their bodies twisted together to form a spire. I noticed quite a number of towers throughout the city, all of which were unique and original in design. The new Town Hall has an imposing tower three hundred and forty feet high.

The Danes are noted for being a cheerful and happy people. They seem to get much pleasure out of life and go about with their faces wreathed in smiles most of the time. They are fond of entertainment and greatly enjoy their eating. A beautiful pleasure palace known as the "Tivoli" draws large crowds to its spacious grounds within which are many attractions in the way of amusement. There are numerous fine restaurants in Copenhagen, the most popular being the celebrated "Wivel's Terrace" where a true "Bohemian" spirit prevails.

Copenhagen is an important shipping center and is a port of call for most of the vessels plying the Baltic sea. More than twenty-three thousand steamers come here each year. I spent considerable time strolling along the quays here and noticed everywhere large shipments of United States goods being unloaded.

The country of Denmark is almost exclusively devoted to agriculture and is divided into over a quarter of a million farms, averaging one farm for every twelve persons. More than half of these farms are of less than fifteen acres each. The principal products of Copenhagen are bacon, butter and eggs, noted for their high quality and exported in large quantities. The farmers are affiliated with co-operative societies and send their products to community depots for direct distribution, thus eliminating the profit-eating middleman.

Copenhagen is the birthplace of Thorvaldsen, the great sculptor who produced the noted "Lion of Lucerne" carved from a wall of rock in a hillside near the shores of Lake Lucerne and which is world famous as a memorial to the Swiss Guards who defended the Tuilieries Palace against the mobs of Paris. A museum is erected in Copenhagen containing originals or copies of all the works of Thorvaldsen and in the courtyard of this building the sculptor lies buried in a simple grave, surrounded by his beautiful masterpieces.

THE EXCHANGE BUILDING, COPENHAGEN

THE NEW B'NAI B'RITH TEMPLE, LOS ANGELES

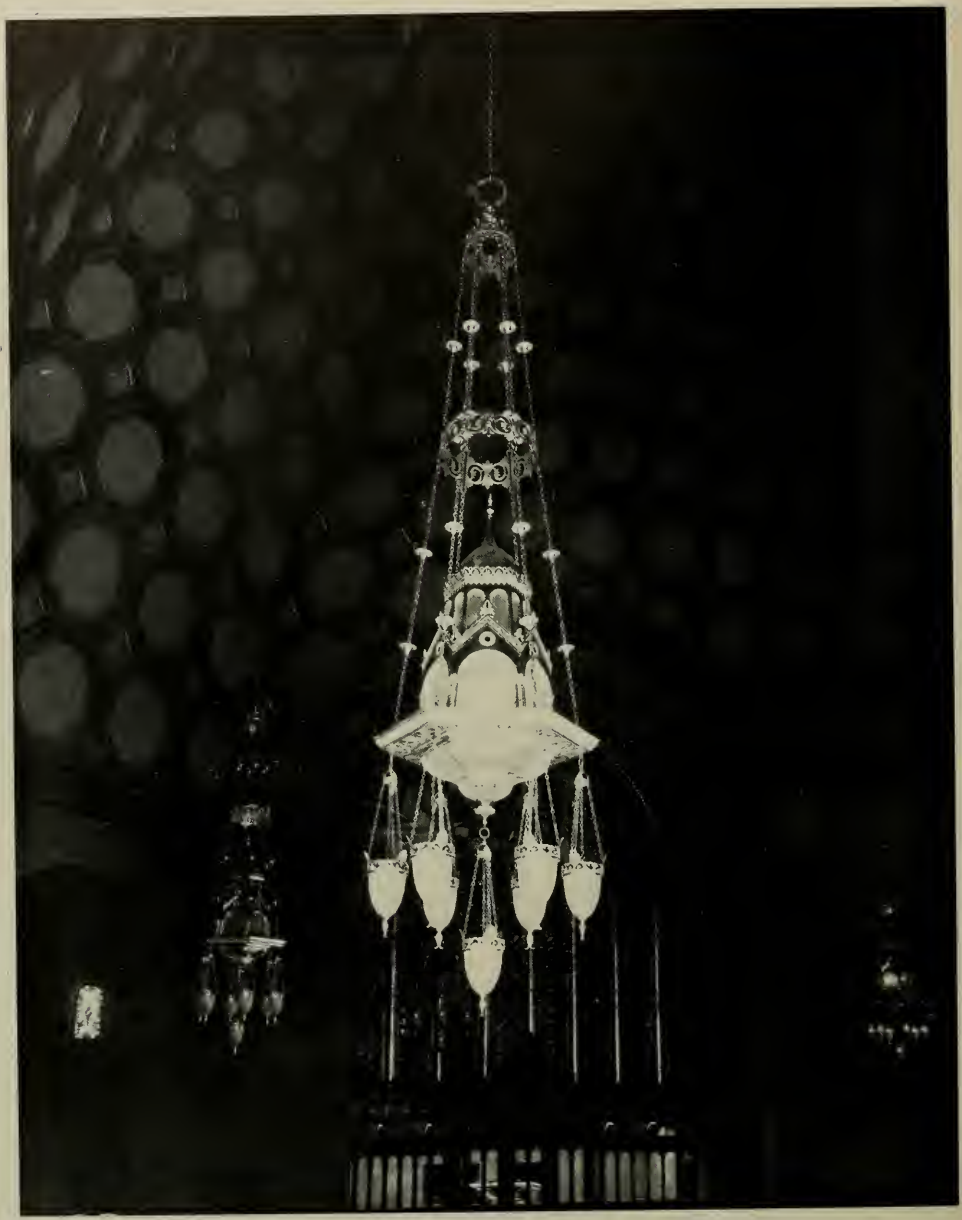
CALIFORNIA architects are showing marked interest in the new B'nai B'rith Temple recently completed in Los Angeles. It is a well planned and splendidly designed edifice and may be compared favorably with the new synagogues in San Francisco and Portland, Ore. The great dome is the dominant feature of the structure, being 100 feet in diameter and 135 feet high. It is a reinforced concrete shell placed by the cement gun process, and is especially designed to withstand earthquake shocks. Its base is flanked by eight buttresses, or small towers, rising from the ring girder that supports the dome. Covered by terra cotta tiles in mosaic patterns it presents a most imposing appearance.

The outside walls, uniquely decorated with horizontal bands of black marble, are reminiscent of the early Florentine period. On Wilshire Boulevard broad steps of Kasota stone lead up to a magnificent facade of Italian marble, pierced by three great carved arches. Above the door is the Scriptural verse, "Behold, the Heaven and the Heaven of the Heavens cannot contain Thee: how much less this house that I have builded." Above the central arch is carved a reproduction of the tablets bearing the Ten Commandments in Hebrew.

At the entrance to the auditorium are heavy East Indian teakwood doors 11 feet high, which open into a spacious foyer decorated in gold and black Italian marble. At the right and left broad carpeted stairways lead to the balcony. Above the doors a magnificent rose window filters the sunlight and stains the atmosphere with soft colors.

The auditorium is surrounded by a wide corridor, with exits on three sides and numerous entrances to the main floor. This corridor facilitates filling and emptying the auditorium, and permits passing from the main entrance to any other portion of the building without entering the place of worship.

TEMPLE B'NAI B'RITH, LOS ANGELES
A. M. Edelman, Architect; Allison & Allison, Consulting Architects, and S. Tilden Norton, Honorary Consultant



CAST BRONZE CHANDELIER, MAIN AUDITORIUM B'NAI B'RITH TEMPLE
DESIGNED AND MADE BY THE MEYBURG COMPANY, LOS ANGELES

AUDITORIUM, B'NAI B'RITH TEMPLE, LOS ANGELES
A. M. Edelman, Architect; Allison & Allison, Consulting Architects, and S. Tilden Norton, Honorary Consultant

Irregular octagon in shape, the auditorium has 10,000 square feet of floor space and, including the balcony, seats 1800 persons in comfort. The majestic coffered dome, finished in dull gold, rises 100 feet from the floor and entirely spans the auditorium. Thick carpet covers the entire floor and all seats are luxuriously upholstered.

The focal point of interest is the Altar and Ark. These with the choir screen, are treated as one architectural unit, constructed of dark walnut handsomely carved and richly inlaid. The entrance to the Ark is framed by hand-carved black marble and is inlaid with marble mosaic.

Walnut wainscoting surrounds the auditorium. Above the marble piers, at the east and west walls, massive Byzantine columns of black Belgian marble rise 30 feet to the base of the dome.

Above the choir screen is a grille enclosing the organ. The latter has 4102 speaking pipes, enclosed in sound-proof rooms, four of which are located behind the mas-

sive grille, the fifth being a concealed echo organ far above. The walnut console with four keyboards is on the choir balcony.

This organ, with its thousands of pipes, including diapasons, flutes, strings and reeds, together with harp and chimes, provides sound combinations of almost unlimited possibilities. With its wealth of tone color, its exquisite voicing and majestic volume, the instrument is able to express, under the constant control of the organist, those subtleties of expression and character of a full symphony orchestra.

Behind the colonnade, on each side of the auditorium, are three windows of brilliant stained glass, designed by the Oliver Smith Studios of Bryn Athyn, Pa. These six windows are a symbolical representation of the Twelve Tribes and of Biblical themes. The rose window in the foyer also carries symbolic designs, with the shield of David and the Torah as the central unit.

The eight main chandeliers and the two Menorah lights were designed by The Meyberg Company, Los Angeles. All are of solid cast bronze, and the chandeliers are patterned after the form of the ancient Habdalah boxes. The Menorah lights, though embodying the typical well known seven light form, are worthy of special mention. In design and style of ornament they are in keeping with the main chandeliers. Small amber cups protecting a gas flame give the effect of wicks burning in oil. Exceedingly fine hand tooling, as fine as might be found in the work of a jeweler, reveals the deep Byzantine ornament. Both chandeliers and Menorah lights are finished in natural old gold.

Under the supervision of Prof. Vern O. Knudsen of the University of California of Los Angeles, much research work was done to provide perfect acoustical conditions. The wainscoting is of a special sound-deadening material. Other surfaces are finished with acoustical plaster, which absorbs sound instead of reflecting it. The result is faultless acoustical properties.

The mural paintings which are an impressive feature of the auditorium were executed by Hugo Ballin.

Part of the illustrations accompanying this article are shown by courtesy of the *Southwest Builder and Engineer* of Los Angeles.

B'NAI B'RITH TEMPLE, LOS ANGELES

Mural Paintings Above the Wainscoting Depict Biblical Events

ENGINEERING

and

CONSTRUCTION

THE NEW MAGNIN BUILDING, SAN FRANCISCO
Bliss & Fairweather, Architects

Featuring

Speed Record in Construction

SPEED RECORD MARKS COMPLETION OF NEW MAGNIN BUILDING

SAN FRANCISCO

By: Alan Mac Donald

A speed job of Class A construction and of more than usual interest is the eight story addition to the I. Magnin & Company Building, being completed on Grant Avenue, near Market street, San Francisco. The architects are Bliss and Fairweather, the structural engineer is T. Ronneberg, and the contractors are MacDonald and Kahn, Inc.

Actual operations in connection with this contract were commenced on April 17th of the current year. (See Fig. 1). The

FIG. 1—MAGNIN BUILDING ON APRIL 17, 1929

second progress picture (Fig. 2) gives the reader a good idea of the advance made from April 17th to June 20th. The time represented between these two dates is practically sixty days. To the casual observer this seems a remarkable accomplishment but to the mind of the writer such construction is not a difficult thing to do, when the proper equipment and force of workmen are at hand. The speed with which a building may be built naturally depends largely upon the delivery of material, provided, however, that the contractor is properly organized and has no labor difficulties.

The problem involved in this piece of construction was to allow the Magnin Company to use the first floor of the building as long as possible, and to construct the new building from the time the old building would be wrecked in ninety days. The new building was an addition to the old structure, and naturally joined to it. It was necessary to parallel the original columns of the old building and increase the footings under these columns. This was done through the sidewalk elevator, without disturbing the first floor at all.

The entire foundations for the new building, and also the new footings under the old columns, were handled in this manner from the street. After having the footings all ready to receive the structural steel, and while goods were still being sold on the first floor, it was necessary to g i v e only a few hours notice to vacate, while we tore d o w n the old building and started erecting steel. In the meantime, all of the structural steel was fabricated and ready. This was also true of the ornamental iron and the terra cotta. We did not start the job at all until all of the material was manufactured and stored in San Francisco. Eleven days after the Magnin Company were moved from the first floor, the structural steel was erected and two floors were fireproofed. Needless to say during the construction we worked two shifts most of the time.

In connection with the progress that has been made on the Magnin building, it is interesting to note that the Mercantile Arcade at Los Angeles was built by the same general method. This structure cost $2,000,000 and the time that elapsed from the wrecking period to its completion was exactly eight months. The secret of rapidity in building construction is not so much fast workmanship as having the material ready when you start the job.

The Magnin building is scheduled to be ready for occupancy August 1st.

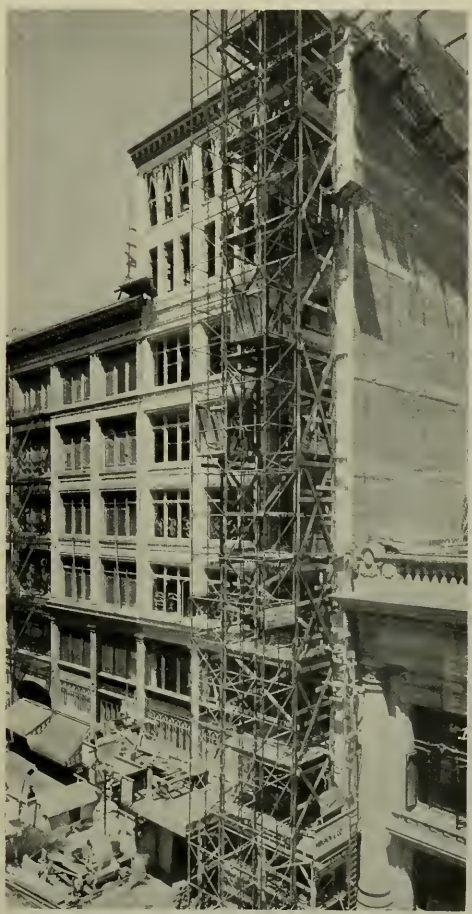


FIG. 2—MAGNIN BUILDING ON JUNE 20, 1929

MULTIPLE ARCH DAM TO BE ONE OF HIGHEST IN WORLD

BIG Dalton dam, one of the ten or more dams in the Los Angeles county flood control program, is nearing completion and is notable because of the fact that it will be one of the highest multiple arch type dams in the world, and will be unique in that it will have two gravity section wings. These were not a part of the original design, but were adopted because the character of the rock in the walls made it inadvisable to cut as deeply into it as would have been necessary to have carried the arches directly into them. This condition was disclosed by a slide which occurred while excavation was in progress for the foundation of the east wing last October.

In point of design the Big Dalton is the most conservative multiple arch dam ever built. To insure its stability under any conditions that might arise, it was decided by the chief engineer and the supervisors of the flood control district that no part of the structure should be less than two feet in thickness and that the maximum pressure on the foundation should not exceed 150 lbs. per sq. in. The significance of the first requirement will be understood when it is stated that much thinner sections have been used in other multiple arch dams, the thickness of the arches tapering in some structures to 12 in. and in one instance to 5 in. To meet the second requirement the double wall type of buttress was adopted to spread the footing over an area sufficient to hold the maximum pressure to 150 lbs. As a precaution against seepage the rock foundations were thoroughly grouted with cement and cut off walls were constructed under the gravity wings.

There are six arches in the Big Dalton dam, each having a span of 60 ft. The total length at the crest, including the wing walls, is about 500 ft., its height above the stream bed is about 155 ft. and above the lowest point in the structure 177 ft. Arches and buttresses are heavily reinforced with round bars in the former and square bars in the latter, the bars ranging from ⅝ to 1¼ inches. Two expansion joints were placed in each buttress. As a result the structure is entirely free of cracks, the first time, it is said that such a condition has been attained in any multiple arch dam.

Big Dalton dam is designed both for flood control and conservation of water. It is provided with four outlets at different levels, one of them being a sluice-way at the base of the structure. The lower of the other three outlets is provided with a needle valve and the upper two outlets have butterfly valves.

A semi-gloria spillway is built into the structure at the east arch to prevent the water overtopping the dam. This is a reinforced concrete tube 40 ft. in diameter at the top and 8 ft. at the bottom, which will discharge the water into the stream bed away from the toe of the dam. This spillway has a capacity about five times the largest recorded flow in the canyon. The watershed tributary to the reservoir has an area of about five square miles and its capacity is about 390,000,000 gals. Control of the flood waters in this territory is sought for the protection of Glendora and adjoining sections, where much valuable land has been washed out by floods.

The dam site is in a narrow granite gorge about four miles north of the city of Glendora, the nearest railroad station.

ARCHITECT AND ENGINEER SHOULD WORK TOGETHER

(From a Bulletin issued by the Structural Engineers Society of New York)

WHAT is a professional structural engineer? That may be a foolish question but some people evidently do not know. They seem to think that he is some kind of a draftsman who makes some calculations and draws "steel plans" or "reinforced concrete" plans. He may be employed or

working "on his own." In any event his plans are expected to be good enough to be accepted by the Building Department and to call for no excess material.

The professional structural engineer is technically trained for and experienced in the science of structural engineering. He assumes the responsibility of producing designs that are entirely adequate in strength and economical in cost of construction. He does not arrive at this professional position by any short cut route because there is no short cut route that leads to knowledge, experience, judgment and professional standing. And it is only by this preparation that the structural engineer is capable of comprehending the manifold complexities that are involved in the modern building.

What did you pay him? That *is* a foolish question. Of course, no one expects to throw away money but the proper question would be—what did you get? It is what you get for your money that fixes the value of the service. Naturally, one hopes to get what he needs or expects, but does he? He will if he employs competence which results from real knowledge, experience and unquestioned professional reputation. That is the way the wise man hires a doctor in an important case—not the cheapest but the best and most sure to deliver the goods. The good man never undersells himself and the wise buyer never tries to secure "cut rate" professional service.

Can he work alone? That is *also* a foolish question? The structural engineer provides the suitable structural frame to which is fastened the other building materials. Unless the architect works with the structural engineer from the first inception of the preliminary sketch plans, the engineer is handicapped (they both are) and cannot produce the best and most economical design. Economical designing requires some compromises by both the architect and engineer. They must work together with a mutual regard for each other in everything that affects the plan arrangement and the structural frame—neither one can work alone.

ENGINEERS' REGISTRATION BILL FOR STATE OF CALIFORNIA

The bill providing for the registration of civil engineers in the state of California, having passed the Legislature and been signed by the Governor, will become effective August 15th next. The new law will be administered by the department of professional and vocational standards through the director thereof. This is a new state department created by the legislature.

At the time the Engineers' Registration bill was passed the bill creating the new state department had not yet been signed by the governor, and the former measure was so drafted as to make it operative whatever might be done with the latter. The bill creating the department of professional and vocational standards was signed by the Governor and Sec. 18 of the engineers' bill, therefore, defines the method of administration.

While the administration of the act will be in the hands of the director of the new department, the board of registration created by it will function as set forth in the new law. It will consist of three engineers, each of whom shall have had at least 12 years active experience, to be appointed by the governor. They will constitute a board of examiners and will issue all certificates of registration and have the power to revoke by a two-thirds vote any certificate for causes set forth in the act. A fee of $15 will be required of all applicants for examination for certificates and a fee of $10 will be collected for issuance of certificates. Certificates will be renewable annually at a fee of $5.

Certificates will be issued to practicing engineers without examination on payment of a fee of $15 at any time prior to June 30, 1930, providing applicant can show he has been a resident of the state for one year immediately preceeding and has practiced professional engineering for at least six years. Graduation from an approved engineering school shall count as four years' experience and each year spent in such a school shall count as one-half year experience. The full text of the Engineers' Registration bill as signed by the governor is printed herewith:

Engineers' Registration Act

Section 1. In order to safeguard life, health and property, any person practicing civil engineering as in this state shall hereafter be required to submit evidence that he is qualified so to practice, and shall be registered as hereinafter provided, and from and after twelve months after this act becomes effective, it shall be unlawful for any person to practice as a civil engineer in this state, unless such person has been duly registered or specifically exempted as required by the provisions of this act.

[Please turn to Page 114]

The ARCHITECT'S VIEWPOINT

¶ *Too Many Small Home Competitions*
¶ *Surplus of Stock Plans Detrimental to the Profession*
¶ *Good Designs Become Poor Designs in Incompetent Hands*

CONTRIBUTING EDITORS
WILLIAM C. HAYS . . *San Francisco*
CARLETON M. WINSLOW . *Los Angeles*
HAROLD W. DOTY . . . *Portland, Ore.*
CHARLES H. ALDEN . . *Seattle, Wash.*

IF ever the writings in this column would lead the reader to suspect that slight digestive disorders, or topping or slicing is the cause of the sometimes pessimistic tone of the subject matter, the diagnosis might be entirely wrong. Our health might be better than ever, and we may have just returned from the links, for once remembering to keep the left arm straight and to keep the head down. Then why the acrid words, asks the dear reader? Possibly the cause is, that we feel there is much which might be improved in this noble profession of Architecture by change, and that THE ARCHITECT AND ENGINEER is a very good medium through which to "sound off." This is a journal of the building industry and is read more by those within the industry than those without. It would not do to let the layman believe that things were anything but serene, just as we do when we see a dormer built on the wrong gable, while visiting the building with our client, Mr. Mental Hazard. It is evident, therefore, that this journal is more preferable for a frank discussion of architectural and building ills than the daily papers.

* * *

WHILE this is being written there is in progress a nationwide competition for small house designs, which is sanctioned and aided by members of the American Institute of Architects. After the prizes are awarded the designs will be purchased, or in other ways will become the property of a privately owned bureau or corporation. These house designs will then be published in a book, and working plans and specifications for the houses will be available to the public for a nominal fee. Is not this bureau in direct competition with the architects themselves?

Most architects, perhaps, are not interested in small house work, in which the resulting fees are necessarily small, and in order to cope with the poor stock plans usually offered to the public, feel that any improvement in these plans is to be heartily encouraged. Perhaps these architects have office organizations trained only for large projects, who handle domestic work in the same manner as an office building, and a small residence becomes the curse of the office.

* * *

THE elevating of the lay taste is one of our principal tasks, if not the very first one to consider, but there are other means of accomplishing this than providing stock plans. Many of the architects who feel that such bureaus are their own difficult competitors, work valiantly in the Institute, giving their time and money in support of aesthetic helps and civic improvements, therefore these men cannot be expected to laud the work of such plan bureaus.

It is the practice of one of these home institutes or bureaus to write to architects whose work has been published in the trade journals and offer royalties for the use and sale of their plans. An architect who allows a plan to be duplicated which he has made

for one of his clients, in a sense violates a trust. Can a client be expected to glory in the fact that his home is identical with fifty others, and if these others are not identical, then the caricatures are the same.

The best houses are usually evolved by the careful working out of client's needs and site conditions. The resulting distinction will grow common and meaningless if the design is repeated elsewhere. Both the design and superintendence of any building, that pretends architecture, cannot be separated one from the other. Can the architect of plan bureau houses see his brain children grow?

* * *

A FEW years ago, one of these competition houses was built several times in varied localities. It was interesting to note how the original design lost its character and charm increasingly with each rebuilding. The one in Peoria was less charming than the one in Philadelphia, and the one in Kansas was downright hard. The size and quality of the houses now included in those available in the bureaus have been constantly increasing. It is a prediction, that if we continue to encourage this work enough, plans for any type of structure may be had in the same manner. The only excuse for the existence of plan bureaus which have the sanction of the American Institute of Architects, is that the architect's services are prohibitive in cost to some people. This point is granted in the case of very small houses of low quality, but the bureaus have not been featuring that particular type lately.

It may have been the cucumbers in the salad, and it might have been the lost ball on the water hole that causes these remarks, but it takes more than good sportsmanship to cheer when an organization encourages a movement which is detrimental to the work and ideals of its own members.

* * *

THE construction of a new suspension bridge is soon to be started in Portland, across the Willamette River, to be known as the St. Johns bridge. This bridge will have one of the longest spans of its type in the West.

The engineering firm which planned the structure is very enthusiastic over the design and graceful proportions of its work, which, if true, is not an immodest attitude. Portland's ablest architects, however, are not joining in enthusiasm over the unrelated gothic arches which terminate the street towers and the puerile design of the piers. These critics had hoped that the engineers would be first to appreciate and grasp the idea which is the most fundamental in the modern movement—that beauty in design grows out of logical and intelligent structure.

A few years ago it appeared that the architect was slow to follow his oft quoted phrase that "form follows function." Then the engineer felt, and properly, that the architect was in the same category as a milliner, one who trims up things prettily, without much thought for structure.

At present the engineer is apt to be the lagging individual in the realization that a design must be fundamentally logical before it can achieve lasting beauty.

One of the firm of engineers which is doing the St. Johns bridge gave a very interesting illustrated talk in Portland a few months ago, on "The Last Fifty Years of Bridge Building." In his talk he stressed the point that structure should be properly expressed in design. He proved the point so aptly that he should have been applauded by all "modernist-minded" architects, but it is difficult to understand now how he can be so happy with his psuedo gothic in steel.

Cooperation of engineer and architect on the St. Johns bridge, as on all such structures, undoubtedly would have produced a better design.

HAROLD W. DOTY, A. I. A.
Portland, Oregon.

EDITORIAL CHAT

I NOTICE that there is a good deal being said of late about Punctuality, as it may be applied not only to social engagements but to business meetings. Good form in society now demands that party and dinner engagements be met on a punctual basis. I heard the other day of one instance where a prominent San Francisco business man refused to hold off his dinner party, scheduled to begin at seven o'clock because one of his guests failed to arrive at the allotted time. He came ten minutes late, to find the guests in the midst of the second course of the dinner. He was embarrassed, quite naturally. But the best point of this story is that since this little incident his presence at subsequent dinner parties has been marked by pronounced punctuality. Unquestionably, any movement that will insure greater punctuality, whether it be in society or in business, provides an improvement greatly to be desired and there would seem to be no limit to its possibilities. The classification might even spread to the more prosaic, everyday walks of life.

* * *

IN Los Angeles they are still discussing the height limit question. Naturally there is a diversity of opinion over the matter. Some would permit skyscrapers of thirty stories or more, while others argue that the present twelve story limit answers every need. They claim that it is not necessary to build into the clouds in order to design something architecturally beautiful. It is also averred, and with some degree of justification, that to permit the erection of higher structures now would be unfair to the owners of existing buildings.

* * *

IT seems that quite a few of the prominent architects in San Francisco and the bay region were not represented by their work at the recent Architectural Exhibition in the De Young Museum in Golden Gate Park. Reminded of the fact, several of them told me they did not know about it or had forgotten the date. Others thought their work inferior for exhibition. Those in charge of the exhibition say they did everything possible to keep the members posted and furthermore, they claim to have exercised unusual activity and persistence in rounding up the exhibitors and getting their photographs and drawings hung. However, I know that there was a lot of good material that did not get to this exhibition. It would seem as if there should be no difficulty in securing all the good work since these exhibitions are now held only every two years instead of annually. Next month's issue of THE ARCHITECT AND ENGINEER will show some of the work that received Honor Awards, and Mr. Ashley of Ashley, Evers & Hayes, will review the exhibition in his usual interesting manner.

* * *

WHEN the American Institute of Architects holds its next convention in 1930, the Modern Trend of Architecture will be its keynote, so we are informed by officials of that organization. Of course, this is an inevitable subject. Modernism is here, not only in architecture, but in interior decoration, in furniture and in my lady's gowns. At the last Institute convention, the Board of Directors issued the following statement in connection with its annual report—a statement that leaves no doubt in one's mind but that the Institute intends to meet the Modern Trend squarely and graciously:

"It is with some diffidence and with embarrassment accompanying self consciousness, that the Board of Directors addresses itself to the caption 'Modernism in Architecture.' For, if we are not modern, what are we? And, if we assume to practice an art which should satisfy the needs of our contemporaries (our fellow Moderns), how can we fail to welcome its continuous refreshment? There has been much discussion of late regarding certain tendencies in architectural design; and some animated questioning of their propriety. The new is ever startling and much tact is needed in ap praising the unfamliar. In the development of any art we can not avoid change, for change is an attribute of life itself. The

architecture of today must be tested by its adherence to the true principles of design, rather than by its likeness to the details of historical precedent. It is the spirit rather than the precise form which is of supreme importance." F. W. J.

WORLD'S GREATEST ARCHITECTURE

NO very wide divergence of opinion on what are the world's greatest examples of art is found by Palos Verdes Art Jury in summarizing the nominations presented in its Art Appreciation Inquiry, which recently closed. Nominations of ten greatest examples were requested in each of the four arts of architecture, landscape architecture, sculpture and painting and considerable agreement and overlapping of subjects was found. Although foreign submissions were supposed to be in by January 15, 1929, Secretary Chas. H. Cheney reports lists from Japan, India and other far reaches of the earth still straggling into his office at Palos Verdes Estates, California.

All lists of the world's greatest art, and of the parallel inquiry as to the greatest American art, are now being catalogued and identified for early presentation to the Art Jury and its distinguished National Advisory Committee. It is expected that another month will be required to get the matter to the attention of all of them and agreement on a final report. In the composite summary the nominations made for the world's greatest architecture follow:

AUSTRIA: Vienna—Library of the Cathedral; Ring Strasse Buildings. BELGIUM: Brussels—Palais de Justice; Hotel de Ville. CHINA: Honan Province—Cave Temples of Lung-men; Cambodia-Angkor Wat; Peking, Temple of Heaven, Reception Hall, T'ai Ho Tien; The Forbidden City Palaces, Imperial Library, Wen Yuan Ko, Great Wall. CZECHOSLOVAKIA: Prague, Church of St. Nicholas; Brno, Palais centrale de l'Exposition. EGYPT: Cairo, Mosque Moh. Ali; Gizeh, Pyramid of Cheops; Thebes, Temple of Karnak. ENGLAND. Canterbury, The Cathedral; London, St. Paul's Cathedral, Houses of Parliament, Westminister Abbey; Lincoln, Lincoln Cathedral; Liverpool, The Cathedral; Salisbury, The Cathedral; Warwickshire, Compton Wynyates; Wells, Cathedral; Winchester, The Cathedral; Windsor, Windsor Castle. FRANCE: Avignon, Palace of the Popes; Amiens, The Cathedral; Blois, Chateau; Chambord, Chateau; Chartres, The Cathedral; Nimes, Pont du Gard; Paris, Napoleon's Tomb, Eiffel Tower, Notre Dame Cathedral, Arc de Triomphe, Louvre, Opera House, Pont Alexandre, Sainte Chappelle; Rheims, Cathedral; Rouen, Cathedral; Versailles, Grand Trianon; Mont-Saint-Michel; Raincy, Eglise de Raincy. FINLAND: Helsingfors, Railroad Station. GERMANY: Cologne, Cathedral. GREECE: Athens, Acropolis Group, The Parthenon. ITALY: Florence, Campanile, Cathedral, Ricardi Palace, Strozzi Palace, Uiazzale Michelangelo; Milan, Cathedral; Naples, Maschio Angiono; Pisa, Cathedral Group; Rome, Piazza del Popolo, Pantheon, Colosseum, Church of St. Peter, Farnesse Palace, Cancellaria Palace, Farnesina of Raffael; cago, Robie House, Wood Lawn Avenue, Tribune Building; Elmira, N. Y., Library of Elmira College; Lincoln, Neb., State Capitol; Los Angeles, Public Library; New York City, St. Thomas Church, Brook-Siena, Cathedral and Library; Venice, Library of St. Mark, Piazza San Marco, Ca'd'oro, Grand Canal, St. Maria della Salute, Palace of the Doges, St. Mark's Cathedral. INDIA: Agra: Taj-Mahal, Fatepur sikri (Akbar's Palace); Aurangabad District, Ellora Cave Temples; Badami, Malegitti Sivalaya; Bhopal State, Sanchi Stupa; Delhi, The Palace; Gwalior, Telika Mander; Jaunpur, Mosque; Khajuraho, Kandarya Mahadeva; Madras Province, Mamallapuram; Puri, Konarak Temples. JAVA: Temple of Borobudur. JAPAN: Horiuji, Temple Group; Kamakura, The Daibutsu; Kyoto-Nanzenji Main Gate, Nijo Rikyu, Chion-in; Nara. Main Hall of Toshodaiji Temple, Main Hall of Todaiji Temple, Kohukuji Pagoda; Nagoya, Castle; Nikko, Mortuary Temples, Toshogu Shrine; Uji, Hoods of Byodoin Temple; Wakayama, Pagoda of Daidenboin Temple. MEXICO: Mexico City, Cathedral of Mexico and Sagrario. NORWAY: Olso, Post and Telegraph Bldg. RUSSIA: Moscow, The Kremlin. SPAIN: Barcelona, Cathedral; Cordova Mosque; Granada, Alhambra; Seville, Cathedral, Giralda Tower. SWEDEN: Stockholm, City Hall. SOUTH AFRICA: Pretoria, Government Building. TURKEY: Constantinople, Seraglio, Santa Sofia. UNITED STATES: Boston, Public Library; Chilyn Bridge, Telephone Building, Woolworth Building, St. Patrick's Cathedral, Cathedral of St. John the Divine, Pennsylvania Railroad Station, Columbia University Library; Washington, D. C., Lincoln Memorial, Pan American Building, National Capitol, Washington Monument.

WITH *the* ARCHITECTS

HONOR AWARDS

The following architects submitting work at the recent exhibition in the de Young Memorial Museum, Golden Gate Park, San Francisco, were given Honor Awards by the jury:

Frederick H. Reimers, Oakland, six-room house.

William Wurster, "L" shaped house in Santa Cruz.

Henry H. Gutterson, hillside house in Berkeley.

Albert Farr and Francis Ward, twelve-room house in Presidio Terrace, San Francisco.

Birge N. Clark, of Palo Alto, Kathleen Norris house, Palo Alto.

Dean and Dean, Sacramento, whitewashed brick house, Sacramento.

Ashley, Evers and Hayes, Junior League house, San Francisco.

Willis Polk & Co., California Golf Club.

George W. Kelham, Bowles Hall, University of California, Berkeley.

Reed and Corlett, Oakland, Mutual Store Office Building, Oakland.

Dean and Dean, Sacramento, Westminster Presbyterian Church, Sacramento.

W. H. Ratcliff, Jr., Berkeley, Music Building, Mills College.

Blaine and Olson, Oakland, W. P. Fricke High School, Oakland.

Birge M. Clark, Palo Alto, Fire and Police Station, Palo Alto.

Simeon Pelenc, San Francisco, cement frescos.

Julia C. Mesick, Oakland, architectural models.

DOES ARCHITECT GET FEE ON EXTRAS?

Where an architect agreed to furnish plans for a house to cost not more than $50,000, he to be paid on a commission basis, and it cost $80,000 to build the house he planned, the owner was not bound to pay a commission on more than $50,000, held the Pennsylvania Supreme Court in the case of Edwards vs. Hall. 141 Atlantic Reporter, 638.

But the decision rested on the proposition that the architect brought forth no good excuse for failing to keep within the specified limit of cost. The court intimates that the owner's acceptance of plans for a more expensive house might render him liable for a commission on the actual cost, especially under circumstances making it equitable that he pay the higher compensation.

PORTLAND ARCHITECTS BUSY

Herman Brookman is architect for a fourteen-story department store to be erected at Sixth and Morrison streets at a cost of $2,000,000. This will complete for the Meier & Frank company the entire block at Fifth, Sixth, Morrison and Alder streets.

A Science Hall for the Pacific University at Forest Grove, to cost $100,000 is to be erected as a memorial to those of the university who served in the world war. Folger Johnson is the architect

A. E. Doyle and Associates are architects for a $1,600,000 twenty-seven-story office building to go up on the half block with 200 feet facing Washington street, 100 feet on Tenth street and 100 feet on West Park street.

The Sun Life is to have a new million dollar fourteen-story home at Broadway and Starke streets, in accordance with the plans of Henry Bertelson, architect.

Hill Military Academy is to have four buildings at a cost of $750,000 from plans being prepared by Herbert Blogg, architect.

MR. AUSTIN'S WORK SHOWN

The one-man architectural exhibition in the Architect's Building, Los Angeles, continues to attract attention. The June exhibition was especially well attended and full of interest. It comprised the work of John C. Austin and associates and covered a wide range of work, some of the sketches never having been shown before. The exhibit included office buildings, churches, schools, public and semi-public buildings, represented by both plans and photographs.

ARCHITECT DISCUSSES ZONING

Proper zoning ordinances for different classes of buildings and intelligent architectural supervision of new construction will materially increase property values, Clarence George, Aberdeen architect, told members of Aberdeen's realty board in a recent address. He declared there should be a zone for office buildings, a zone for semi-fireproof structures and another for lesser construction.

$200,000 CHURCH UNIT

Plans have been completed for a reinforced concrete Sunday school unit to be located in Pasadena for the First Baptist church. It will cost $200,000. Carleton M. Winslow of Los Angeles, is the architect.

APARTMENTS AND RESIDENCE

Mrs. Hawkins of Berkeley is having plans prepared for a three-story stucco apartment house of eighty rooms to be built in the College City. The architect is Frederick H. Reimers of Oakland, who is also architect for a two story English type residence in Wildwood Gardens, Piedmont.

ORANGE COUNTY HOTEL

Arthur H. Hutchason, Architects' Building, Los Angeles, is preparing working drawings for a two to four story Class C hotel building, Palisades at Dana Point, Orange County, California, for the Dana Point Inn. There will be twenty cottages, casino, hotel building and a bathing pavilion.

$300,000 APARTMENT BUILDING

Plans have been prepared by C. Waldo Powers, architect, 608 Hibernian Building, Los Angeles, for a five story Class B apartment building at 2225 North Highland Avenue, Los Angeles, to cost $300,000. The owner is Richard D. Albord.

COLLEGE BUILDING

A group of three story reinforced concrete college buildings is to be erected on Norman Way, north of Beverly Boulevard, Bel-Air, California, for Mount St. Mary's College. I. E. Loveless, Chester Williams Building, Los Angeles, is completing the working drawings.

PASADENA APARTMENTS

An $800,000 Class A apartment building, eight stories, is to be built at 415 West Colorado street, Pasadena. Plans are being completed by Henry McKay, Pacific Southwest Bank Building, Pasadena, and bids are to be taken shortly.

COTTON WAREHOUSE

A contract has been let for the erection of a Class A addition to a cotton warehouse at the Los Angeles Outer Harbor, San Pedro, California, from plans by Robert J. Cummins of Houston, Texas.

CONCRETE MAUSOLEUM

Plans have been completed by Clarence N. Aldrich, 714 Pacific South West Bank Building, Long Beach, California, for a reinforced concrete mausoleum at Porterville. The cost is estimated to be $150,000.

BIG HOSPITAL ADDITION

Working drawings are being prepared by Messrs. Bakewell and Weihe, 251 Kearny street, San Francisco, for a six-story steel frame and concrete surgical wing to the Stanford University Hospital, Webster and Clay streets, San Francisco. The approximate cost is $1,000,000. The same firm have awarded the contract for a reinforced concrete women's gymnasium at Stanford University to George Wagner, Inc., of San Francisco.

WILLIS POLK & COMPANY BUSY

Willis Polk & Company of San Francisco, have let the contract for a $35,000 English type residence in Woodside for Miss Jurgensen. It will be a two story brick veneer house of fourteen rooms and three baths.

Plans are being completed by the same architectural firm for an eight-story reinforced concrete building in San Francisco for the California Ink Company. The contract has already been awarded to Barrett and Hilp for $400,000.

APARTMENT HOUSE

Andrew H. Knoll, with offices in the Hearst Building, San Francisco, has completed plans for a two-story and basement stucco apartment house on Bellevue Avenue, 160 feet north of El Camino Real, Burlingame. There will be fifteen apartments of from two to five rooms each, with all modern conveniences.

CONCRETE WAREHOUSE

Messrs. Ashley, Evers and Hayes, Underwood Building, San Francisco, have recently let a contract to G. W. P. Jensen, 320 Market street, San Francisco, for the construction of a three-story reinforced concrete warehouse for the Scoville Manufacturing Company.

TWO BERKELEY RESIDENCES

Edwin Lewis Snyder of Berkeley has completed plans for two residences, one of Colonial design for R. Harry Croninger and the other in the Monterey type for B. M. Brown. Both houses are to be built in Claremont Pines, Berkeley.

SAN MATEO PREVENTORIUM

Plans are being prepared by E. L. Norberg, 544 Market street, San Francisco, for a tubercular preventorium at San Mateo, for San Mateo County. It will be one story, frame and stucco, Spanish type and will cost $50,000.

PASSING OF ARCHITECTS

Michael White, architect of Baker, Oregon, died recently of pneumonia. Mr. White was born in Cardiff, Wales, February 26, 1864. At the youthful age of 24 Mr. White designed Baker's old high school, now known as the Central school and during the succeeding years he drew the plans for buildings that now comprise a considerable portion of Baker. Mr. White was active in music circles, being leader of the St. Francis cathedral choir for many years. Mr. White is credited with having been the first man to introduce steam heat and oil burners in Baker homes.

William Kingsley, architect of Seattle, Wash., succumbed to a heart attack recently, at the age of 72. He had practiced his profession in the state of Washington for the last 22 years, coming from St. Paul, Minnesota, where he was city building superintendent. He was born in Plymouth, Mass.

LOS ANGELES OFFICE BUILDING

A 13-story Class A office building is to be erected on the southwest corner of 5th and Beaudry streets, Los Angeles, for Duncan A. Kellem and Thomas M. Christie. The plans are being prepared by Theodore R. Jacobs, Architects' Building, Los Angeles, and the builders are the William Simpson Company, of the same address.

13-STORY LOFT BUILDING

Plans have been completed by Claude Beelman, architect, of Los Angeles, for a 13-story reinforced concrete store and loft building on the northeast corner of 9th and Broadway, Los Angeles. The structure will cost $750,000 and the owner is J. W. Clune, also of Los Angeles.

OAKLAND STORE BUILDING

The architectural firm of Bertz, Winter and Maury, Shreve Building, San Francisco, has been appointed architects for a $50,000 building to be erected and owned by the United Stores Realty Corporation on the site of the present Franklin Theater in Oakland.

ANOTHER MEXICAN RESORT

W. H. Wheeler and Gordon E. Mayer, associated architects, both of San Diego, are preparing plans for a group of buildings at Agua Caliente, Mexico, to cost $3,500,000. There will be a fine casino, hotel, swimming pool and golf course.

PERSONALS

David J. Myers has withdrawn from the architectural and engineering firm of Schack, Young & Myers, Seattle, and has established offices on the third floor of the Central Building. The original firm, organized nine years ago, will be known as Schack & Young with offices in the same building.

A partnership to practice professional engineering has been formed by J. P. Kemmerer, former superintendent of streets, and G. H. Fernald, former city engineer of San Bernardino, with office in that city. Mr. Fernald was an assistant engineer in charge of construction for the Santa Fe Ry. prior to becoming city engineer.

Nelson J. Morrison, architect, of Tacoma, Washfor many years associated with the firm of Hill & Mock, has become a member of the firm which is now known as Hill, Mock & Morrison. Offices will be retained in the Perkins Building at the corner of 11th avenue and "A" street, Tacoma.

Stephen Child, the San Francisco Landscape Architect and City Planner, is now serving, from his Tucson, Arizona, headquarters, as City Planning Consultant to the newly organized City Planning Commission at Phoenix. Along with zoning, studies are being made for a major street plan and for a comprehensive park system for Phoenix, the capitol city of Arizona.

Swartz & Ryland, architects of Fresno, have opened a branch office for the practice of their profession in Monterey, where they have a number of commissions. Their office is in the Spazier Building and W. K. Bartges, formerly of Berkeley, is in charge.

James H. Mitchell of Willis Polk & Company, architects of San Francisco, has been appointed a member of the Burlingame City Planning Commission.

CONCRETE APARTMENTS

J. W. Blackburn of Palo Alto, has recently had plans completed by H. C. Baumann, architect, of San Francisco, for a six-story and basement reinforced concrete apartment hotel to be erected on Couper and University Avenues, Palo Alto, at an estimated cost of $250,000.

$35,000 BURLINGAME BUILDING

George E. Ralph, with offices in the French Bank Building, San Francisco, has completed plans for a two-story steel frame and concrete store and rooming house in Burlingame to cost $35,000.

COVER AND INSIDE PAGE OF THE NEW VOLKER MANUAL

ARCHITECT'S NEW MANUAL *on the* SHADING *of* WINDOWS

WITH the growing use of steel sash in residence work as well as business and industrial construction, architects have found the proper shading of windows to be a problem of increasing difficulty.

For more than a year, William Volker and Company's Pacific Coast Division, has been at work on a comprehensive architect's manual on the shading of modern windows, carefully planned to overcome this difficulty.

In the preparation of this manual, William Volker & Company has had the benefit of its own almost half a century's experience in working with important architects on the Pacific Coast and throughout America. The company also has had the close cooperation of influential architects, who have taken an active interest in this problem of window shading, and, in addition the help of leading steel sash manufacturers.

The results of these combined efforts are contained in a 28-page manual just off the press, in which is said to be summed up more authentic, practical, usable information on the subject of shading modern windows than ever before has been made available to the architectural profession.

The manual is concise and businesslike. Text material is confined to specification data and information of actual value. All extraneous material has been eliminated, and as a result, answers to any question about window shading may be secured quickly. A very complete index adds to the manual's reference value.

Working details are made from architectural drawings, insuring their accuracy and practical value. Every phase of the manual has been carefully checked and rechecked by an architectural advisory board, and no pains have been spared to make this work one of genuine service.

In the back of the book is a complete showing of swatches of modern shade cloths, and this is expected to prove a valuable feature to the architect.

The manual is of standard file size, compact despite its comprehensiveness, and those who have seen advance copies regard it worthy of a permanent place in every architectural file.

SOCIETY and CLUB MEETINGS

SOUTHERN CALIFORNIA CHAPTER

Golf and personal experiences of members while touring Europe featured the June meeting of the Southern California Chapter of the American Institute of Architects, held at the Wilshire Country Club, Beverly Boulevard and Rossmore, June 11.

Several of those present told of interesting experiences they had while touring in Europe. These included Edgar Cline, R. Germain Hubby, Eugene Weston, Jr., Pierpont Davis and Ralph Flewelling.

Some of the members spent the day playing golf over the Wilshire Country Club course.

Members and guests present were: H. J. Reed Barrett, A. S. Nibecker, Jr., Kemper Nomland, Frank Hudson, Sumner Hunt, Edwin Bergstrom, William Richards, Arthur L. Acker, R. Germain Hubby, Edwin B. Clarke, E. J. Borgmeyer, J. T. Zeller, B. B. Horner, Joseph Kaiser, Horatio W. Bishop, M. L. Barker, E. D. Martin, Edgar Cline, Claude K. Smithley, Pierpont Davis, H. J. Moore, Leland Fuller, Eugene Weston, Jr., Ralph Flewelling, W. D. Cook, H. C. Chambers, W. L. Risley, and F. L. Miller.

TACOMA ARCHITECTS, INC.

As a direct result of the efforts of the Tacoma architects in showing the City Commissioners and the public that architect's services are worth while and economical, as described by Mr. Alden in his editorial in the April ARCHITECT AND ENGINEER, in referring to the replanning of the fire alarm station, these architects have been engaged by the Commissioner of Public Utilities of the city of Tacoma, to design a six-story fire-proof building for the use of the Utilities Department. For this purpose, the group has been incorporated under the name of Tacoma Architects, Inc., and besides the Utilities Building mentioned above, of which the plans are well under way, they have designed other small buildings now under construction.

The officers of the corporation are Ernest T. Mock, president; Roland E. Borhek, vice-president; A. J. Russell, secretary, and George W. Bullard, treasurer.

The work appears to be carried on in a similar manner to allied architects' organizations elsewhere.

L. A. ARCHITECTURAL CLUB

The June meeting of the Los Angeles Architectural Club held the 18th, was voted, by the record-breaking crowd in attendance, the most successful held in a long time. Festivities commenced at 6:15 at the Paris Inn where delectable food and equally delectable entertainment—were provided. After the dinner a "progressive party" was inaugurated, the 125 members and their guests moving from the Paris Inn to the 25th floor of the City Hall. Here, appropriately enough, the height question was discussed pro and con—more con than pro, it must be admitted.

Before settling down to serious business a large proportion of those present promenaded about the balconies, refreshing themselves after the day's heat (98). The lights of the city, spread out in a gleaming panorama, were an inspiring sight. Those romantically inclined were heard to comment on the moon, which was truly a summer's one—large and softly beaming.

The meeting was opened by President Hales who was also the first speaker. Referring to the height limit he pointed out that Los Angeles was about the only city that had such restrictions.

Following Mr. Hales, three men, all influential in civic affairs, said a few words on the height limit question. A. L. Lathrop of the Union Bank, spoke against removing the height limit. His many arguments were: Conservation of light and air by barring skyscrapers, the dangers of traffic congestion and fire hazard incurred by high buildings, and the question of fairness to those who have already built. He concluded by saying that we didn't need skyscrapers in order to have beautiful buildings.

Gordon Whitnall of the City Planning Commission next spoke, likewise upholding the height limit law as did J. J. Backus of the Building Department.

Gene Weston brought forth the idea of keeping the same cubage but disregarding the height limit. This would give, he held, much better lighting and ventilation than we have under the present scheme.

Mr. Hales concluded the meeting by introducing Mr. Rob Wagner whose "Beverly Hills Script" is one of the most illuminating of our local publications.

TACOMA ARCHITECTS' MEETING

In response to the call for the Tacoma meeting a considerable number of Washington State Chapter members and their wives, found their way Saturday, June 22, by automobile to the plant of the Hooker Chemical Company, an industrial establishment of notable architectural interest recently completed in the Tacoma industrial district. This group of buildings, with surrounding walls and gateway, were designed by McKim, Mead and White, to house the activities of this company, engaged in the manufacture of hydrochloric acid, chlorine and caustic soda, mainly by electrical process. The buildings, with the orderly arrangement of mechanical installation and well kept grounds, show how architectural treatment consistently carried through all the accessories may be preeminently suited to the housing of an industry. The Chapter members were greatly interested not only in the fine architectural character of the buildings, but in the mechanical processes so conveniently and attractively housed.

After viewing the Hooker Chemical plant the members proceeded to the Titlow Beach hotel, where they were joined by other members of the Chapter and their wives. A bountiful dinner was enjoyed at the hotel, pleasantly diversified with songs by Herbert Ford with Mrs. Ford at the piano, and humorous impersonations and stories by Bernard Ford.

After the dinner, President Ford of the Chapter called the meeting to order and introduced Vice-President Bell, who gave some appropriate words of welcome.

Arthur Loveless, described interesting sidelights of the A. I. A. Convention and Roland Borhek told of the inception and operation of the "Tacoma Architects Incorporated."

PORTLAND ARCHITECTURAL CLUB

The Portland Architectural club was organized Tuesday, February 26, at a meeting of architects, designers, draftsmen and others interested.

Twenty-four were present at the meeting, which elected Wyman Bear as temporary president and Robert W. Turner temporary secretary-treasurer. The board of directors includes Horst Schreck, Harry A. Herzog and Walter E. Church. Permanent officers will be elected at a meeting to be held later.

Two committees were appointed, F. Lee McPike, Linn Forrest and Walter E. Church being named to obtain quarters for the club, and Hollis Johnston and Robert W. Turner to a committtee on constitutional revision.

An atelier was organized at a meeting held on March 19.

OLD BRICK ALWAYS USEFUL

Have you ever wondered what becomes of the brick in old buildings torn down to make way for new improvements? Brick has the unusual quality of being practically indestructible and just as valuable when reused as when originally made.

A recent survey at the City Hall Plaza in Los Angeles disclosed the fact that the brick from scores of razed buildings in that area has been in great demand among builders in various parts of Los Angeles county.

A decorator in Hollywood actually paid a premium to secure the brick from one old store building. He wanted it in building a new studio on Beverly Boulevard where a very particular antique effect was desired. He now has a new building that looks ages old.

Several hundred thousand brick from these old buildings were used in the construction of one of the largest warehouses in Southern California, recently completed.

There are scores of examples in Southern California of brick used again and again in successive buildings. Part of the building that houses Bullock's department store in Los Angeles is built of common brick that served in three successive structures on the same location.

$16,000 PIEDMONT RESIDENCE

F. A. Kurtz of Oakland, has recently been awarded a contract for an English type residence for Dr. W. L. Channell, to be erected on Hazel Lane, Piedmont, at a cost of $16,000. F. Eugene Barton is the architect.

ADDITION TO FACTORY

Dodge A. Riedy, architect of San Francisco, has recently let the contract for a two-story Class B addition to the Mullen Manufacturing Company's plant, Raisch street, San Francisco.

$45,000 RESIDENCE

Mel I. Schwartz of San Francisco, has completed plans for a $45,000 frame and brick veneer residence to be built in San Francisco. The client's name is being withheld for the time being.

ENGLISH HOUSE

G. D. Blood, with offices in the Hunter-Dulin Building, San Francisco, has had plans prepared by William H. Ratcliff, Jr., of Berkeley, for a $40,000 English type residence.

ENGINEERS' REGISTRATION BILL FOR STATE OF CALIFORNIA

[Continued from Page 103]

Sec. 2. There is hereby created a state board of registration for civil engineers, hereinafter called the "board," consisting of three (3) members to be appointed by the governor within sixty (60) days after the date upon which this act becomes effective. All members of the board shall be civil engineers. Of the members of the board first appointed hereunder, one (1) shall hold office for a term of (2) years, one (1) shall hold office for a term of three (3) years and one (1) shall hold office for a term of four (4) years, such terms in each case to commence on the first day of July, 1929. Upon the expiration of such terms, the term of office of each member thereafter appointed shall be for four (4) years. Each member shall continue to hold office after the expiration of his term until his successor shall be duly appointed and qualified. The governor may remove any member of the board for misconduct, incompetency, or neglect of duty. Vacancies on the board, however created, shall be filled by appointment by the governor for the unexpired term. Each member of the board shall be a citizen of the United States and a civil engineer of at least twelve (12) years active experience and of good standing in his profession and shall be at least thirty (30) years of age, and shall have been a resident of this state for at least five (5) years immediately preceding his appointment. Each member of said board, except the members first appointed hereunder, shall be registered as a civil engineer under this act. Each member of the board shall receive twenty-five ($25) per day for the time actually spent in traveling to and from and in attending sessions of the board and its committees, and each member shall receive all necessary expenses incident to the performance of his duties under this act.

Sec. 3. Each member of the board shall receive a certificate of appointment from the governor, and before beginning his term of office he shall file with the secretary of state an oath of office. Each member of the board first created shall receive a certificate of registration from the board without payment of fees. Any member may administer oaths and may take testimony and proofs concerning all matters within the board's jurisdiction. The board shall adopt and have an official seal which shall be affixed to all certificates of registration granted.

Sec. 4. The board shall hold a meeting within thirty (30) days after its members are first appointed, and shall organize by electing one of its members as president, and one as vice-president, and shall within sixty (60) days after its first meeting adopt rules and by-laws not inconsistent with law, needed to govern its action. Thereafter said board shall hold at least two (2) regular meetings each year and shall elect annually from its members a president and a vice-president. The board shall appoint a secretary, who may or may not be a member of the board, and who shall hold office during its pleasure, and shall fix a salary for such position not to exceed three thousand six hundred dollars ($3600) per year. Examinations hereinafter provided for shall be given by the board as often as it deems necessary. Special meetings shall be held at such time as the by-laws of the board shall provide. Notice of all meetings shall be given in such manner as the by-laws shall provide. A majority of the board shall constitute a quorum.

Sec. 5. The secretary of the board shall receive and account for all moneys derived from the operation of this act, and shall at the end of each month, report to the state controller such moneys and shall pay them to the state treasurer, who shall keep such moneys in a separate fund to be known as the "civil engineer's fund" which said fund is hereby created. Said fund shall be expended in accordance with law for the payment of all actual and necessary expenses incurred in carrying out the provisions hereof. The secretary of the board shall give a surety bond satisfactory to the board conditioned upon the faithful performance of his duties. The premium on said bond shall be paid from the fund of the board hereinbefore mentioned.

Sec. 6. The secretary shall keep a complete record of all applications for registration and the board's action thereon and shall prepare annually a roster showing the names, places of business and residence of all registered civil engineers; a copy of such roster to be filed with the secretary of state, a copy to be filed with the clerk of each county in the state, and a copy to be furnished to each civil engineer registered under the provisions of this act. Copies of such roster shall be available on application to the secretary, at such price per copy as may be fixed by the board. The board shall within thirty (30) days prior to the meeting of the regular session of the Legislature submit to the governor a full and true report of its transactions during the preceding biennium including a complete statement of the receipts and expenditures of the board during the period, attested to by the president and secretary of the board. A copy of said report shall be filed with the secretary of state. All records shall be public records. The board shall be empowered and authorized to employ such clerical assistance under civil service regulation as may be necessary to properly carry out and enforce the provisions of this act.

Sec. 7. Application for examination for registration as a civil engineer shall be made to the board on its prescribed form, accompanied with a fee of fifteen ($15), said fee to be retained by the board. The application shall contain satisfactory evidence under oath that applicant

(a) Is at least twenty-five (25) years of age.

(b) Is of good character, and

(c) Has been engaged in the practice of civil engineering for at least six (6) years, and during that period had responsible charge of engineering work as a subordinate to a civil engineer for at least one (1) year. Graduation from an engineering school or college, approved by the board shall count as four (4) years of practice and each year of study completed without graduation, in an engineering school or college, approved by the board, shall count as one-half year of practice.

Sec. 8. Examinations for registration shall be held at regular or special meetings of the board, at such times and at such places within the state as the board shall determine. The examinations shall be conducted by at least two (2) members of the board. The scope of examinations and the methods of procedure shall be prescribed by the board. In determining the qualifications of applicant for registration, a majority vote of the board shall be required. A candidate failing on examination may, after an interval of not less than one (1) year, be examined again.

Sec. 9. (a) Any applicant who has passed the examination prescribed by the board shall, upon payment of an additional fee of ten dollars ($10.00), the amount to be retained by the board, have issued to him a certificate of registration, signed by the president and the secretary of the board under the seal of the board, authorizing him to practice as a civil engineer, as defined herein.

(b) A new certificate of registration to replace any certificate lost, destroyed or mutilated, may be issued subject to the rules and regulations of the board. A charge of one dollar ($1) shall be made for such reissue.

Sec. 10. At any time on or before June 30, 1930, upon due application therefor and the payment of a fee of fifteen dollars ($15), to be retained by the board, the secretary shall issue a certificate of registration, as provided by section nine (9), to any civil engineer who shall submit to the board evidence under oath that he is at least twenty-five (25) years of age, of good character, and has been a resident of the state of California for at least one (1) year immediately preceding the date of his application and has practiced civil engineering, as a professional business, for at least six (6) years preceding the date for his application, and during that period has had responsible charge of engineering work as principal or assistant for at least one (1) year. Graduation from an engineering school or college, approved by the board shall count as four (4) years of practice and each year of study completed without graduation, in an engineering school or college approved

by the board, shall count as one-half year of practice. After June 30, 1930, the board shall issue certificates of registration only as prescribed in this act.

Sec. 11. The board shall, from time to time, examine the requirements for the registration of civil engineers in other states, territories and countries and shall record those in which, in the judgment of the board, standards not lower than those provided by this act, are maintained. The board is hereby empowered to arrange for reciprocal registration in this state of civil engineers from other states, territories or countries so recorded under terms mutually agreed upon. The board, upon the presentation to it by any person, of satisfactory evidence that such person holds an unexpired certificate of registration issued such person by proper authorities in any state, territory, or country, recorded as herein provided, which state, territory or country grants full and equal reciprocal registration rights and privileges to registrants of this board, shall upon the payment of a fee of ten dollars ($10.00), to be retained by the board, issue to such person a certificate of registration under this act.

Sec. 12. (a) It shall be the duty of the board to inquire into the identity of any person not registered as provided in this act and practicing as or claiming to be a civil engineer. The board shall have the power by a two-thirds (2/3) vote to revoke the certificate of any civil engineer registered hereunder found guilty of any fraud or gross incompetency in his practice, or guilty of any fraud or deceit in obtaining his certificate.

(b) Proceedings for the revocation of certificate of registration shall be begun by filing with the secretary of the board written charges against the accused, such charges shall be in detail, and sworn to under oath by the complainant. The board shall designate a time and place for a hearing and shall notify the accused of this action and furnish him a copy of all charges at least thirty (30) days prior to the date of hearing. The accused shall have the right to appear personally or by counsel, to cross-examine witnesses or to produce witnesses in his defense. The board shall have the power to compel the attendance of witnesses and the production of necessary papers and documents.

The board may reissue a certificate of registration to any person whose certificate has been revoked; provided two (2) or more members of the board vote in favor of such reissue for reasons the board may deem sufficient.

Sec. 13. (a) Any certificate issued under the provisions of this act shall remain in effect until the thirtieth (30th) day of June following the date of issuance.

(b) Every civil engineer registered under this act who desires to continue the practice of his profession beyond the thirtieth (30th) day of June following the date of issuance of his orginal certificate shall on or before the thirtieth (30th) day of June of each year pay to the secretary of the board a fee of five dollars ($5), to be retained by the board, for which fee a renewal certificate of registration for the current year shall be issued. Certificates of registration which have expired for failure to pay renewal fee may be reinstated within one year under rules and regulations prescribed by the board. An unrevoked or unexpired certificate and endorsement of registry, made as provided in this act, shall be presumtive evidence in all courts and places that the person named therein is legally registered.

Sec. 14. Each registrant hereunder may, upon registration, obtain a seal of the design authorized by the board, bearing the registrant's name, number of certificate, and the legend "Registered civil engineer." Plans, specifications, plats, reports and other documents issued by a registrant may be stamped with the said seal during the life of the registrant's certificate, but it shall be unlawful for anyone to stamp or seal any plans, specifications, plats, reports, or other documents with said seal after the certificate of the registrant named thereon has expired or has been revoked, unless said certificate shall have been renewed or reissued.

Sec. 15. Nothing in this act shall be construed as prohibiting a civil engineer from practicing his profession through the medium of or as employee of a partnership or corporation, provided that the plans, specifications, and reports of such partnership or corporation be signed and be stamped with the seal of each registered civil engineer in specific and responsible charge of the preparation of the same. The same exemptions shall apply to partnerships and corporations as apply to individuals under this act; provided, however, that nothing in this act shall be construed as requiring registration for the purpose of practicing civil engineering, by an individual, firm, partnership or corporation on or in connection with property owned or leased by said individual, firm, partnership or corporation, unless the same involves the public health or safety or the health and safety of employees of said individual, firm, partnership or corporation; provided, however, no one shall represent himself as, or use the title of registered civil engineer, unless he is qualified by registration under this act. Nothing in this act shall be construed as in any way repealing or abrogating any provision of that certain act entitled "An act to regulate the practice of architecture," approved March 23, 1901, as amended, or in any way repealing or abrogating any amendments to said act.

Sec. 16. The following shall be exempt from the provisions of this act:

(a) Officers and employees of the United States of America practicing solely as such officers or employees.

(b) A subordinate to a civil engineer registered under this act or a subordinate to a civil engineer exempted under this act, in so far as he is acting in such capacity.

(c) Any architect registered in this state under the provisions of any act to regulate the practice of architecture, in so far as he practices architecture in its various branches.

(d) Any person, firm of persons, or corporation furnishing, either alone or with subcontractors, labor and materials (with or without plans, drawings, specifications, instruments or service or other data covering such labor and materials), for store fronts, interior alterations or additions, fixtures, cabinet work, furniture or other appliances or equipment, or for any work necessary to provide for their installation, or for any alterations or additions to any building necessary to or attendant upon the installation of such store fronts, interior alterations or additions, fixtures, cabinet work, furniture, appliances or equipment.

Sec. 17. (a) Any person, who is not legally authorized to practice civil engineering in this state, according to the provisions of this act and shall so practice, except he be exempt under this act, and any person presenting or attempting to file as his own the certificate of registration of another, or who shall give false evidence of any kind to the board, or to any member thereof, in obtaining a certificate of registration, or who shall falsely impersonate or use the seal of any other practiciner, of like or different name, or who shall use an expired or revoked certificate of registration, shall be deemed guilty of a misdemeanor and shall for each such offense of which he is convicted be punished by a fine of not more than five hundred dollars ($500) or by imprisonment not to exceed three months, or by both fine and imprisonment.

(b) It shall be the duty of the respective officers charged with the enforcement of laws and ordinances to prosecute all persons charged with the violation of any of the provisions of this act. It shall be the duty of the secretary of the board, under the direction of the board, to aid such officers in the enforcement of this act.

Sec. 18. If a state department of professional and vocational standards is created by a statute adopted by the Legislature of California at the forty-eighth session thereof, said department shall succeed to and become vested with all the duties, powers, purposes, responsibilities and jurisdiction of the state board of registration for civil engineers hereinbefore proposed and described and of the several officers, deputies and employees of said board which duties, powers, purposes, responsibilities and jurisdiction shall be administered by said department through the director thereof; provided, however, that nothing herein contained shall be construed as aboilishing said board of registration for civil engineers which said board shall be established and continued as hereinbefore provided for and shall retain the functions of setting standards, holding meetings, issuing certificates, passing upon the qualifications of applicants,

conducting investigations, issuing citations, holding hearings for the revocation of certificates and imposing penalties as hereinbefore proposed and described, and the decisions of said board with respect thereto shall not be subject to review by the director of the department of professional and vocational standards. Except as to said powers, duties and functions so expressly reserved to said board, the director of the department of professional and vocational standards shall have full authority to employ and appoint all employees necessary to properly administer the work of the board and the work of the department in accordance with civil service regulations, and upon recommendation of said board, with the approval of the director of the department of finance the directtor of the department of professional and vocational standards shall employ investigators and attorneys to assist said board in prosecuting violations of this act. All moneys collected by the department of professional and vocational standards for and on behalf of the activities of the board of registration for civil engineers shall be remitted to the state treasurer in accordance with law and credited to the "civil engineer's fund" herein created; provided, however, that with the approval of the director of the department of finance a charge not exceeding the amount of the available balance in the "civil engineer's fund" may be at any time be levied by the director of the department of professional and vocational standards in advance against said fund to cover the aforesaid board's pro rata share of the estimated administration expenses of the department of professional and vocational standards; provided further, that none of the moneys in said fund shall be used to pay the general expenses of any other board in the department. Upon proper presentation of claims by said department to the state controller, the latter shall draw his warrant or warrants against said fund to cover such estimated administration expenses.

BOOK REVIEWS

By Edgar A. Kierulff

ART AND CIVILIZATION—Essays arranged and edited by F. S. Marvin and A. F. Clutton-Brock. Price $4.75. Oxford University Press.

The contributors to this new volume of the Unity Series have not aimed at securing any apparent unity of view, either about the nature of art or the work of individual artists. Unity in this sense could be but superficial, as the work of the artist is necessarily a unique thing and must make an individual appeal to different people. But they are united in one strong conviction that art is an essential expression of the spiritual activity of any civilized community and has intimate links with the other sides of its activity. They have tried to bring out these connections in a broad historical survey of art, from its origin as revealed by physiology and the records of primitive peoples, down to the transformations which it has undergone in a scientific and mechanical age.

More appreciation of art, and of art as a part of history, should find a place in our accustomed study of the past, especially in the courses of history taken at the Universities. It is the needs of such students, as well as the general reader, that the contributors have had specially in view.

INTERESTING COAST APPOINTMENT

As the first step in an enlarged structural program, the Portland Cement Association recently announced the appointment of Homer M. Hadley as regional structural engineer for the Pacific Coast. Mr. Hadley is to act in an advisory capacity to architects and engineers for the territory of California, Nevada, Arizona, Oregon, Washington and British Columbia.

For the last seven years Mr. Hadley has been in the employ of the Association as field engineer and then as district engineer with offices in Seattle He brings to his new post a structural experience both wide and varied.

Following the Tokyo and Santa Barbara earthquake disasters, Mr. Hadley served as investigating engineer for the Association. In both instances he rendered valuable assistance to structural engineering through his detailed surveys and reports of the effect of earthquakes on all types of construction.

Mr. Hadley, who has been an associate member of the American Society of Civil Engineers for 22 years and former president of the Western Washington chapter, is regarded as one of the outstanding engineers in concrete structural design on the Pacific Coast. He is a member of the American Concrete Institute and the Engineers Club, Seattle.

Mr. Hadley will continue to maintain offices in Seattle.

STANDARDIZED PLUMBING

At last an attempt is to be made to standardize plumbing equipment. The American Standardization Association has authorized this new project and has named the American Society of Sanitary Engineers and the American Society of Mechanical Engineers as joint sponsor bodies.

It is to be sincerely hoped that the new movement will result in the standardization of plumbing equipment, including materials, and uniformity of roughing-in dimensions, all of which should make for a better interpretation of specifications.

RUBBER MATS FOR EVERY USE

The United States Rubber Company has just published a new folder featuring colored rubber mats. These perforated and corrugated mats have many uses, being adaptable for entrances to theaters, churches, apartment houses, hotels, clubs, residences, etc. The mats are easily cleaned and very durable. If interested, readers are advised to get in touch with the nearest representative of the U. S. Rubber Company.

SUNSET COMPANY IN MERGER

Announcement is made of the merging of interests of the Sunset Lumber Company, Tilden Lumber & Mill Company, National Mill & Lumber Company and the Pacific Tank & Pipe Company, all of Oakland. All of these concerns have been prominent in the development of the East bay district during the last few years and the consolidation means much to the building industry in that section as well as throughout central California. The combined companies will be under the management of Gerald G. Pearce, formerly general manager of the Sunset Company. Mr. Pearce assumed management of the Sunset about two years ago and since that time the company has moved forward with rapid strides. For the time being the individual names of the various companies will be retained but the general management will be under one head with executive offices at 400 High street, Oakland. In connection with the operation of the several companies, it is interesting to note that besides recent improvements to the Sunset plant, the mill of the National Mill & Lumber Company has been rearranged and equipped with added facilities for improved service.

In showing the Santa Barbara County Court house in this month's issue, considerable interest is attached to the Sunset Lumber Company's contribution toward the completion of this beautiful structure. All of the mill work in the building was executed by this company from special designs by the architects, the William Mooser Company. The heavy Spanish doors, rich carving and unusual cabinet work, counters, benches, rails, etc., have been pronounced by architects as the last word in fine craftsmanship.

PAINT MANUFACTURING CENTER

Fifty per cent of all the paint manufactured on the Pacific Coast is made in and around San Francisco. Furthermore, every type of paint and varnish, including white lead, is manufactured in the Bay District plants, from whence these materials are distributed throughout the western states and into Mexico, South America, the Hawaiian and Philippine Islands, Japan, China, Australia, and other countries.

NEW BUILDING FOR THE COAST

The Philip Carey Company of Cincinnati, Ohio, represented by the Jones Bros. Asbestos Company, 370 Second street, San Francisco, announce that within a relatively short time they are coming to California to erect a plant for the manufacture of their products. It is estimated the plant will cost in the neighborhood of $1,000,000.

ATTENDS HEATING CONFERENCE

George A. Schuster, 4712 Grove street, Oakland, secretary of the Heating and Piping Contractors Association of Alameda County and chairman of the Pacific Coast Committee of the National Association, has returned from St. Louis, where he attended the 40th annual convention of the Heating and Piping Contractors National Association. More than 500 delegates from all over the United States were in attendance, Mr. Schuster reports.

Discussion at the convention centered around improved standards for heating equipment and installation in order that the public may get better service out of steam and water radiator heating equipment through certified heating.

Committee reports, Mr. Schuster says, showed the tremendous amount of technical research which the Association is doing to advance the standards of the heating industry. Whereas years ago contractors guessed at the amount of radiation required, today by the use of charts on boiler capacity, oil burners, the carrying loads of pipes and valves, the amount of air infiltration, and exposure factors, contractors know with absolute certainty just how large a boiler should be used and how many feet of radiation are necessary to heat a home comfortably and economically in any temperature.

CONCEALED DOOR CHECK

A concealed door check and closer for fine homes, offices and public buildings is a device that architects and builders will find both useful and practical. The Condor concealed door check and closer, manufactured in San Francisco, fills a long felt want and is declared to be a progressive step in building hardware. The device is completely concealed in the door behind the hinge. It is simple in construction, sturdy, easily adjusted to meet varying conditions and readily installed in either wood or steel doors, half doors and wickets. The price is moderate being approximately the same as the old type overhead check.

NEW TYPE FLOOR

Lee H. Miller, Chief Engineer of the American Institute of Steel Construction, has started investigation of a new type of floor construction which is known as the "battleship deck" floor. This is a steel plate floor, which it is estimated, will give greater strength and stability to buildings, reduce the loads on the columns and therefore be especially valuable in skyscraper construction.

AN IMPROVED NARROW DOOR WALL BED INSTALLATION

Architects and the building industry generally are showing a great deal of interest in an improved narrow door installation which makes provision for an extra bed in the average size room. The invention is termed "Ad-A-Room Bed," the product of the Marshall & Stearns Company of San Francisco.

For more than twenty-five years the Marshall & Stearns Company has been manufacturing wall beds. At first the invention was simply a bed spring fastened to the back of a hinge panel that lowered from the wall. It was a cumbersome and crude invention. Later

AD-A-ROOM BED SAVES VALUABLE SPACE

an all-metal bed was perfected and this was installed upon the back of a revolving five-foot two-inch door. It gave an entrance to the closet and greater concealment to the bed. This was known as the Portal wall bed. Like the first invention the Portal also is now obsolete.

During the intervening years other installations have been offered, some of them an improvement and others less desirable. During all these years, however, there has been a persistent demand for an installation that would give greater concealment and increased convenience. Now, after a quarter of a century of experimental work, the Marshall & Stearns Company has achieved an improved narrow door installation that is believed will fill every demand. This new invention retains all of the good features of the former installations with the added advantages of perfect concealment and greater convenience.

The improved narrow door installation is the first single door installation to give an unobstructed entrance to the closet.

Other installations, requiring 3 ft. and even 3 ft. 2 in. doors do not permit one to pass into the closet without first stopping to swing the bed into the room. Because of this inconvenience many enter their dressing room through a door out in the hall, requiring many unnecessary steps during a day. The improved narrow door installation overcomes these two objections as one may enter the closet directly from the room without moving the bed.

When the bed is down in the room the closet may be entered, an essential feature with any successful wall bed installation.

The mechanism is very simple with nothing to get out of order or cause trouble. One movement swings the bed from the closet into the room. This is done by means of two jointed arms and a guide link. The arms are attached to the casing inside the closet, the lower arm pivots on the floor and carries the entire weight of the bed. To have the weight of the bed on the floor and not carried on the jamb is a very important feature when tile or light channel iron partitions are used.

The entire bed structure is exactly the same as used on all Ad-A-Room Beds and is manufactured in three sizes.

The twin installations offer architects and builders unheard of possibilities, for instance in an opening of only 3 ft. 2 in. wide twin beds or a double bed may be interchanged.

AN INTERESTING SUMMER SKETCH IN THE HIGH SIERRAS BY A. HEWETSON

"RUBBER-MOUNTED" TOGGLE SWITCH

A new totally enclosed, toggle type flush switch with rubber mounted mechanism for exceedingly quiet operation has just been announced by Cutler-Hammer, Inc., 79 12th street, Milwaukee, Wisconsin. The mechanism is mounted directly upon two soft rubber pads.

Included are such features as totally enclosed mechanism to keep out dust, dirt, etc., long life non-stubbing contacts, compression type lubricated spring, extremely simple mechanism and Thermoplax, cold-moulded insulating material for body and base. The quick acting mechanism results in instantaneous contact as soon as the lever is moved. The lever is made to operate easily with any type of switch plate.

This switch is made in single and double pole, three and four way types, furnished with either black or brown operating levers and standard mounting throughout. The manufacturer describes this new addition to his line, for use wherever quiet operation and enclosed mechanism is required.

PROMENADE TILE

United Materials Company, Sharon Building, San Francisco, report that there is a good demand for Richmond Promenade Tile which is being manufactured by the Richmond Pressed Brick Company. These tiles may be worked out in various designs to please the architect and owner. They are obtained in a variety of shades, including red, buff, grey, pink, old gold and varigated colors. They are especially adapted for floors in hotels, hospitals, churches, schools and other public buildings where floors are subjected to constant wear. Promenade Tile is reputed to have a very low absorption, is sanitary and easily cleaned.

ARCHITECTS' CERTIFICATES

At the meeting of the State Board of Architectural Examiners, Northern Division, certificates to practice architecture in this state were granted April 30, 1929, to Charles A. Phillips, 526 Powell street, San Francisco; and Angus McD. McSweeney, 250 Santa Paula Ave., San Francisco.

CONCRETE COMES INTO ITS OWN

AT A recent convention of the American Concrete Institute an entire session was devoted to a discussion of the place of concrete in architecture. More than seventy-five architects were present, which is a good indication of the profession's interest in the subject.

From an engineering standpoint, the structural possibilities of reinforced concrete are, as we have said many times, practically without limit. Cantilevered footings along property lines permit occupancy of the full width of a lot without encroaching on adjoining property.

As to the aesthetic possibilities of concrete, it must be very manifest, even to the casual observer, that the volume and variety of the uses of reinforced concrete have been steadily increasing and its adaptability to the production of architectural effects in buildings, aspiring to the more highly developed character, is just beginning to be appreciated.

Color treatment of concrete surfaces is a comparatively new art, which promises wonderful possibilities and may be divided as follows:

Color materials mixed with the aggregates; surface treatments, such as acid staining, applied oils or stains, and abrasive treatment, by tooling, to bring out the colors in the stone or gravel.

Stucco or plastered finishes, such as neat cement washes, application of patented stuccos, such as California colored plasters, Scrafito and the cement gun. Inserts for monolithic casting, such as colored tiles, marbles and other decorative materials.

A writer in *Concrete* declares that today concrete is emerging from its era of disguise and concealment. "Just why it was so long treated as something to be ashamed of is difficult to explain," he comments. "When it attained structural reliability it became as respectable a material as any other, and it held a wonderful capacity for varied and attractive treatment. Yet for years designers concealed it expensively or dressed it like cut stone to the deception of none but the near-sighted. Its finish was but little less foolish than the 'Tin Ashlar' that once adorned the edifices raised by ambitious citizens of western boom towns.

"Like the solid rock and the granite and sandstones, concrete will, in due course of time, be shaped, formed and colored to meet the aesthetic requirements of the age in which it plays so important a part."

INITIAL COST OF OIL HEATING

The first cost of a complete oil heating installation, ready for operation, may range from $350 to $1500. For a home of six to ten rooms, the investment required would be somewhere between $450 and $1100. The actual cost will vary with the needs of individual installations.

It is well to remember that oil heating is essentially not a product, but a service. All necessary equipment is usually supplied by the dealer and incorporated in his total estimate for the installation. Such equipment will include:

A fuel storage tank of from 225 to 1000 gallon capacity.

One or more thermostats to control the temperature of the home building.

A co-ordinated system of automatic controls designed to safeguard the installation against damage from any abnormal operating conditions.

The initial cost of an oil heating installation also provides for:

An inspection of your present boiler and heating system by a competent engineer.

The services of a trained installation crew to set your equipment for reliable and economical operation.

The advantages are obvious. Automatic control eliminates the burdensome labor to home owners in caring for their heating plant. It permits the maintenance of uniform temperature throughout the heating season. It eliminates combustion when heat is unnecessary and by starting it again as required. It eliminates the ash and dust nuisance, resulting in cleaner homes or buildings and permitting the utilization of basement space for living and recreational purposes.—Oil Heating Institute Bulletin.

THIRTY-FIVE YEARS' OIL SUPPLY

Since 1859 ten billion barrels of petroleum have been produced in America. With new recovery methods applied to the old fields it is probable that the amount of oil recovered from them will reach the enormous amount of thirty billion barrels. This means that at the present rate of consumption we shall have thirty-five years' supply from this source alone.

ANOTHER SAN FRANCISCO SKYSCRAPER

George W. Kelham, architect, of San Francisco, has been commissioned to prepare plans for a $2,000,000 bank and office building at Montgomery and Sutter streets, San Francisco, for Walter H. Sullivan and associates. The height of the building has not yet been fully determined upon, but it will undoubtedly be of the skyscraper type.

NEW MANAGER

S. E. Moore, vice-president of Manhattan Electrical Supply Company, Inc., and vice-president and general sales manager of the Troy Laundry Machinery Company, Inc., has announced the appointment of Jules G. Horine as vice-president of the Troy Laundry Machinery Company and manager of the eastern sales division with headquarters in New York City. Mr. Horine has long been a familiar figure in the laundry and dry cleaning trade.

Estimator's Guide

Giving Cost of Building Materials, Wage Scale, Etc.

Amounts quoted are figuring prices and are made up from average quotations furnished by material houses to three leading contracting firms of San Francisco.

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and southern part of the state. Freight cartage, at least, must be added in figuring country work.

Overtime in wage scale should be credited with time and a half, Sunday and holidays double.

Bond—1½% amount of contract.

Brickwork—
Common, $33 to $35 per 1000 laid.
Face, $100 per 1000 laid.
Brick Steps, using pressed brick, $1.10 lin. ft.
Brick Walls, using pressed brick on edge, 68c sq. ft. (Foundations extra.)
Brick Veneer on frame buildings, 70c sq. ft.
Enamel, $120.00 per 1000 f.o.b. cars.
Common, f.o.b. cars, $14.50 plus cartage.
Face, f.o.b. cars, $50.00 per 1000, carload lots.

HOLLOW TILE FIREPROOFING (f.o.b. cars in carload lots).

3x12x12 in.	$ 96.00 per M
4x12x12 in.	108.00 per M
6x12x12 in.	156.00 per M
8x12x12 in.	240.00 per M

Rebate 10% cash 10 days.

HOLLOW BUILDING TILE (f.o.b. cars in carload lots).

8x12x5½	$100.00
6x12x5½	74.00

Composition Floors — 18c to 30c per sq. ft. In large quantities, 18c per sq. ft. laid.
Rubber Tile—65c per sq. ft.

Terazzo Floors—50c per sq. ft.
Terazzo Steps—$1.50 per lin. ft.
Mosaic Floors—80c per sq. ft.

Concrete Work (material at San Francisco bunkers) — Quotations below 2000 lbs. to the ton.

No. 3 rock, at bunkers	$1.40 per ton
No. 4 rock, at bunkers	1.40 per ton
Eliott pea gravel, at bnkrs.	1.40 per ton
Washed gravel, at bnkrs.	1.40 per ton
Eliott top gravel, at bnkrs.	1.40 per ton
City gravel, at bunkers	1.40 per ton
River sand, at bunkers	1.00 per ton
Delivered bank sand	1.00 cu. yd.

Note—Above prices are subject to discount of 10c per ton on invoices paid on or before the 15th of month, following delivery.

SAND
Del Monte, $1.75 to $3.00 per ton.
Fan Shell Beach (car lots, f.o.b. Lake Majella), $2.75 to $4.00 per ton.
Cement, $2.51 per bbl. in paper sks.
Cement (f.o.b. Job, S.F.), $2.71 per bbl.
Cement (f.o.b. Job, Oak.), $2.71 per bbl.
Rebate of 10 cents bbl. cash in 15 days.
Atlas "White" .....$ 8.50 per bbl.
Forms, Labors average 22.00 per M.
Average cost of concrete in place, exclusive of forms, 28c per cu. ft.
4-inch concrete basement floor.....13c to 14c per sq. ft.
4½-inch concrete basement floor.....14c to 15c per sq. ft.
2-inch rat-proofing.....6½c per sq. ft.
Concrete Steps.....$1.26 per lin. ft.

Dampproofing—
Two-coat work, 20c per yard.
Membrane waterproofing—4 layers of saturated felt, $5.50 per square.
Hot coating work, $2.25 per square.

Electric Wiring — $3.00 to $9.00 per outlet for conduit work (including switches).
Knob and tube average $2.25 to $5.00 per outlet, including switches.

Elevators—
Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing an automatic elevator in four-story building, $2600; direct automatic, about $2500.

Excavation—
Sand, 70 cents; clay or shale, $1.25 per yard.
Teams, $10.00 per day.
Trucks, $21 to $27.50 per day.
Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

Fire Escapes—
Ten-foot balcony, with stairs, $70.00 per balcony.

Glass (consult with manufacturers)—
Double strength window glass, 15c per square foot.
Quartz Lite, 50c per square foot.
Plate, 75c per square foot.
Art, $1.00 up per square foot.
Wire (for skylights), 27c per square foot.
Obscure glass, 25c per square foot.
Note—Add extra for setting.

Heating—
Average, $1.80 per sq. ft. of radiation, according to conditions.

Iron—Cost of ornamental iron, cast iron, etc., depends on designs.

Lumber (prices delivered to bldg.site)
Common, $26.00 per M (average).
Common O. P. select, average, $34.00 per M.

1 x 6 No. 3—Form lumber	$21.00 per M
1 x 4 No. 1 flooring	45.00 per M
1 x 4 No. 2 flooring	42.00 per M
1 x 4 No. 3 flooring	35.00 per M
1 x 6 No. 2 and better flooring	43.00 per M
1¼ x 4 and 6 No. 2 flooring	50.00 per M

Slash grain—

1 x 4 No. 2 flooring	$37.00 per M
1 x 4 No. 3 flooring	35.00 per M
No. 1 common run to T. & G.	30.00 per M
Lath	5.50 per M

Shingles (add cartage to prices quoted)—

Redwood, No. 1	$ .90 per bdle.
Redwood, No. 2	.75 per bdle.
Red Cedar	.90 per bdle.

Hardwood Flooring (delivered to building)—

13-16x3¼" T & G Maple			$135.00 M ft.
1 1-16x2¼" T & G Maple			145.50 M ft.
⅞x3½ sq. edge Maple			132.50 M ft.
	13-16x2¼" T&G	¾x2" T&G	5-16x2" Sq. Ed.
Clr. Qtd. Oak	$220.00 M	$160.00 M	$178 M
Sel. Qtd. Oak	150.00 M	122.00 M	131 M
Clr. Pla. Oak	155.00 M	110.00 M	113 M
Sel. Pla. Oak	132.00 M	79.00 M	97 M
Clear Maple	147.00 M	101.00 M	

Laying & Finishing 16c ft. 15c ft. 13c ft.
Wage—Floor layers, $9.00 per day.

Building Paper—

1 ply per 1000 ft. roll	$4.00
2 ply per 1000 ft. roll	6.00
3 ply per 1000 ft. roll	9.25
Sash cord com. No. 7	$ 1.05 per 100 ft.
Sash cord com. No. 8	1.20 per 100 ft.
Sash cord spot No. 7	1.75 per 100 ft.
Sash cord spot No. 8	1.10 per 100 ft.
Sash weights cast iron	57.00 ton

Nails, $3.25 base.
Belgian nails, $3.00 base.

Millwork—
O. P. $87.00 per 1000. R. W., $100.00 per 1000 (delivered).
Double hung box window frames, average, with trim, $7.00 and up, each.
Doors, including trim (single panel, 1¾ in. Ore. pine) $7.50 and up, each.
Doors, including trim (five panel, 1¾-in. Oregon pine) $6.50 each.
Screen doors, $3.50 each.
Patent screen windows, 30c a sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., $7.00 each.
Dining room cases, $8.00 per lineal foot.
Labor—Rough carpentry, warehouse heavy framing (average), $12.00 per M.
For smaller work, average, $25 to $32 per 1000.

Marble—(Not set), add 50c to 65c per ft. for setting.

Alaska	$1.40 sq. ft.
Columbia	1.40 sq. ft.
Golden Vein Yule Colo.	1.70 sq. ft.
Pink Lepanto	1.50 sq. ft.
Italian	1.75 sq. ft

Tennessee ..... 1.70 sq. ft.
Verde Antique ..... 3.00 sq. ft.

NOTE—Above quotations are for ⅞ inch wainscot in large slabs f.o.b. factory. Prices on all other classes of work should be obtained from the manufacturers.

Floor Tile—Set in place.

Verde Antique ..... $2.75 sq. ft.
Tennessee ..... 1.60 sq. ft.
Alaska ..... 1.35 sq. ft.
Columbia ..... 1.45 sq. ft.
Yule Colorado ..... 1.45 sq. ft.
Travertine ..... 1.60 sq. ft.

Painting—

Two-coat work ..... 30c per yard
Three-coat work ..... 40c per yard
Whitewashing ..... 4c per yard
Cold Water Painting ..... 8c per yard
Turpentine, 85c per gal. in cans and 80c per gal. in drums.
Raw Linseed Oil....$1.01 gal. in bbls.
Boiled Linseed Oil..$1.11 gal. in bbls.

Carter or Dutch Boy White Lead in Oil (in steel kegs)

Per. Lb.
1 ton lots, 100 lbs. net weight 12c
500 lb. and less than 1 ton lots 12¾c
Less than 500 lb. lots..... 14c

Dutch Boy Dry Red Lead and Litharge (in steel kegs)

1 ton lots, 100 lb. kegs net weight 12½c
500 lb. and less than 1 ton lots 13½c
Less than 500 lb. lots..... 14½c

Red Lead in Oil (in steel kegs)

1 ton lots, 100 lbs. net weight 13½c
500 lb. and less than 1 ton lots 14c
Less than 500 lb. lots 14½c
Note—Accessibility and conditions cause wide variance of costs.

Patent Chimneys—

6-inch..... $1.00 lineal foot
8-inch..... 1.50 lineal foot
10-inch..... 1.85 lineal foot
12-inch..... 2.10 lineal foot

Pipe Casings — 14" long (average), $5.00 each.

Plastering—Interior—

	Yard
1 coat, brown mortar only, wood lath	$0.40
2 coats, lime mortar hard finish, wood lath	.52
2 coats, hard wall plaster, wood lath	.55
3 coats, metal lath and plaster	1.00
Keene cement on metal lath	1.25
Ceilings with ¾ hot roll channels metal lath	.67
Ceilings with ¾ hot roll channels metal lath plastered	1.40
Shingle partition ¾ channel lath 1 side	.62
Single partition ¾ channel lath 2 sides 2 inches thick	2.20
4-inch double partition ¾ channel lath 2 sides	1.30
4-inch double partition ¾ channel lath 2 sides plastered	2.45

Plastering—Exterior—

	Yard
2 coats cement finish, brick or concrete wall	$1.00
2 coats Atlas cement, brick or concrete wall	1.25
3 coats cement finish No. 18 gauge wire mesh	1.75
3 coats Atlas finish No. 18 gauge wire mesh	2.05

Wood lath, $6.00 per 1000.
2.5-lb. metal lath (dipped) ..... .17
2.5-lb. metal lath (galvanized) ..... .20
3.4-lb. metal lath (dipped) ..... .22
3.4-lb. metal lath (galvanized) ..... .27
¾-inch hot roll channels, $45 per ton.
Hardwall plaster, $15.40 ton; $12.95 in paper sacks (rebate 15c sack).
Finish plaster, $16.40 ton; in paper sacks, $13.85 (rebate 10c sack).
Dealer's commission, $1.00 off above quotations.
Hydrate Lime, $19.50 ton.
Lime, f.o.b. warehouse, $2.25 bbl.; cars, $2.15
Lime, bulk (ton 2000 lbs.), $16.00 ton.
Wall Board 5 ply, $43.00 per M.

Composition Stucco—$1.60 to 2.00 per sq. yard (applied).

Plumbing—

From $60.00 per fixture up, according to grade, quantity and runs.

Roofing—

"Standard" tar and gravel, $5.25 per square for 30 squares or over.
Less than 30 squares, $5.50 per sq.
Tile, $19.00 to $35.00 per square.
Redwood Shingles, $11.00 per square in place.
Cedar Shingles, $10.50 sq. in place.
Recoat, with Gravel, $3.00 per sq.

Sheet Metal—

Windows—Metal, $1.85 a sq. foot.
Fire doors (average), including hardware, $2.15 per sq. foot.

Skylights—

Copper, $1.35 sq. ft. (not glazed).
Galvanized iron, 30c sq. ft. (not glazed).

Stone—

Granite, average, $6.00 sq. foot in place.
Sandstone, average Blue, $3.50; Boise, $2.60 sq. ft. in place.
Indiana Limestone, $2.60 per sq. ft. in place.

Store Fronts—

Copper sash bars for store fronts, corner, center and around sides, will average 75c per lineal foot.
Note—Consult with agents.

Steel Structural—$97.50 per ton (erected). This quotation is an average for comparatively small quantities
Light truss work higher; plain beam and column work in large quantities, less.
Cost of steel for average building (erected), $93.00 per ton.

Reinforcing—

Base price for car load lots, $2.75 100 lbs., f.o.b. cars.
Average cost to install, $23 per ton.

Steel Sash—

All makes, from S. F. stock, 20c to 35c per square foot.
All makes, plant shipment, 22c to 35c per square foot.
(Includes mullions and hardware.)

Tile—White glazed, 75c per foot, laid.
White floor, 75c per foot, laid.
Colored floor tile, $1.00 per ft. laid.
Promenade tile, 80c per sq. ft., laid.

1929 WAGE SCHEDULES FOR SAN FRANCISCO BUILDING TRADES

EFFECTIVE APRIL 1

Craft	Journeymen Mechanics
Asbestos workers	$ 8.00
Bricklayers	11.00
Bricklayers' hodcarriers	7.00
Cabinet workers, (shop)	7.50
Cabinet workers, (outside)	9.00
Carpenters	9.00
Cement finishers	9.00
Electric workers	9.00
Electrical fixture hangers	8.00
Elevator constructors	10.00
Elevator helpers	7.00
Engineers, portable and hoisting	9.00
Glass workers	8.50
Hardwood floormen	9.00
Housemovers	8.00
Housesmiths, arch. iron, skilled all branches	9.00
Housesmiths, arch. iron, not skilled all branches	8.00
Housesmiths, reinforced concrete, or rodmen	9.00
Iron workers (bridge & structural) including engineers	11.00
Laborers, building (6-day week)	5.50
Lathers, channel iron	10.00
*Lathers, all other	8.50
Marble setters	10.00
Marble helpers	6.00
Marble cutters and copers	8.00
Marble bed rubbers	7.50
Marble polishers and finishers	7.00
Millmen, planing mill department	7.00
Millmen, sash and door	6.00
Millwrights	8.00
Model makers	10.00
Model casters	9.00
Mosaic and Terrazzo workers	9.00
Mosaic and Terrazzo helpers	6.00
Painters	9.00
Painters, varnishers and polishers (shop)	7.50
Painters, varnishers and polishers (outside)	9.00
Pile drivers and wharf builders	9.00
Pile drivers engineers	10.00
Plasterers	11.00
Plasterers' hodcarriers	7.50
Plumbers	10.00
Roofers, composition	8.00
Roofers, all others	8.00
Sheet metal workers	9.00
Sprinkler fitters	10.00
Steam fitters	10.00
Stair builders	9.00
Stone cutters, soft and granite	8.50
Stone setters, soft and granite	9.00
Stone carvers	8.50
Stone derrickmen	9.00
Tile setters	10.00
Tile helpers	6.00
Auto truck drivers, less than 2500 lbs.	5.50
Auto truck drivers, 2500 to 4500 lbs.	6.00
Auto truck drivers, 4500 to 6500 lbs.	6.50
Auto truck drivers, 6500 lbs. and over	7.00
General teamsters, 1 horse	5.50
General teamsters, 2 horses	6.00
General teamsters, 4 horses	6.50
Plow teamsters, 4 horses	6.50
Scraper teamsters, 2 horses	6.00
Scraper teamsters, 4 horses	6.00

*On wood lath if piece rates are paid they shall be not less than such an amount as will guarantee, on an average day's production of 1600 lath, the day wage set forth.

Eight hours shall constitute a day's work for all Crafts except as otherwise noted.

Plasterer's hodcarriers, bricklayers' hodcarriers, roofers, laborers, and engineers, portable and hoisting, shall start 15 minutes before other workmen, both at morning and noon.

Five and one-half days, consisting of eight hours on Monday to Friday inclusive, and four hours on Saturday forenoon shall constitute a week's work.

Overtime shall be paid as follows: For the first four hours after the first eight hours, time and one-half. All time thereafter shall be paid double time. Saturday afternoon (except laborers), Sundays from 12 midnight Saturday, and Holidays from 12 midnight of the preceding day shall be paid double time. On Saturday afternoon laborers, building, shall be paid straight time.

Where two shifts are worked in any twenty-four hours shift time shall be straight time. Where three shifts are worked, eight hours pay shall be paid for seven hours on the second and third shifts.

All work shall regularly be performed between the hours of 8 A. M. and 5 P. M., provided, that in emergencies or where premises cannot be vacated for work by mechanics until the close of business, men then reporting for work shall work at straight time; but any work performed after midnight shall be paid time and one-half except on Saturday afternoons, Sundays, and holidays, when double time shall be paid.

Recognized holidays to be New Year's Day, Decoration Day, Fourth of July, Labor Day, Admission Day, Thanksgiving Day and Christmas Day.

Men ordered to report for work, for whom no employment is provided, shall be entitled to two hours pay.

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ACOUSTIC CORRECTIONS
Johns-Manville Company, all principal Coast cities.
R. Guastavino Co., represented by Albert B. Mann, Engineer, 417 Crocker Bldg., San Francisco.
"Acousti-Celotex," Western Asbestos Magnesia Co., 25 South Park, San Francisco.
American Hair & Felt Co., 1616 Ditman St., Los Angeles.

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American Hair & Felt Co., 1616 Ditman St., Los Angeles.

ART METAL
Federal Ornamental Iron and Bronze Co., 16th St., and San Bruno Ave., San Francisco.
Michel & Pfeffer Iron Works, 1415 Harrison Street, San Francisco.

ARCHITECTURAL ENCAUSTIC TILE
Mangrum-Holbrook Co., Inc., 1235 Mission Street, San Francisco.

ARCHITECTURAL BRONZE
Elevator Supplies Company, Inc., Hoboken, N. J.; 186 Fifth Street, San Francisco; 1120 S. Hope Street, Los Angeles.
Zouri Drawn Metals Company, Chicago Heights, Illinois. (Zouri Company of California, 1208 Howard St., San Francisco.

ARCHITECTURAL TERRA COTTA
N. Clark & Sons, 116 Natoma Street, San Francisco.
Gladding, McBean & Co., 660 Market St., San Francisco; 621 S. Hope St., Los Angeles; 1500 First Ave. South, Seattle; 454 Everett St., Portland; 15th and Dock Sts., Tacoma, and 22nd and Market Sts., Oakland
W. S. Dickey Clay Mfg. Co., San Francisco and Oakland.

ASBESTOS MATERIALS
Johns-Manville, Inc., of California, 159 Montgomery St., San Francisco. Coast Factory at Pittsburg, Calif.
Western Asbestos Magnesia Company, 25 South Park, San Francisco.
Jones Bros. Asbestos Supply Co., Inc., 500 Second St., San Francisco.

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El Rey Products Company, 1633 San Pedro St., Los Angeles; 960 Seventh St., San Francisco; 65 Columbia St., Seattle; 850 E. Taylor St., Portland.
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C. F. Weber & Co., 601 Mission St., San Francisco, Los Angeles and Reno, Nevada.

BOILERS
Kewanee Boiler Co., 636 Mission St., San Francisco.
Kewanee Water Supply System, Simonds Machinery Co., 816 Folsom St., San Francisco.

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Bonding Company of America, Kohl Bldg., San Francisco.
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Pacific Portland Cement Co., Hunter-Dulin Bldg., San Francisco, also Portland, Ore., Los Angeles and San Jose, Calif.
Hydro-plastic cement, manufactured by Southwestern Portland Cement Company, 356 S. Spring St., Los Angeles

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Gunn, Carle & Co., Inc., 444 Market St., San Francisco.
Clinton Welded Wire Fabric, Wickwire Spencer Steel Corporation, 144 Townsend St., San Francisco.
Pacific Coast Steel Company, Hunter-Dulin Bldg., San Francisco.
National Steel Fabric Company, 274 Brannan St., San Francisco, and 1736 Naud St., Los Angeles.

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DOORS—FREIGHT ELEVATOR
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ENGINEERS—CONSULTING, ELECTRICAL, MECHANICAL
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Majestic Electric Appliance Company, 590 Folsom Street, San Francisco.
Wesix Heater Company, Rialto Building, San Francisco.
Sandoval Sales Company, 415 Jessie Street, San Francisco.
Weir Electric Appliance Company, 26th and Adeline Streets, Oakland.

ELECTRIC REFRIGERATION
General Electric Refrigerator, George Belsey Company, Los Angeles, Distributor. Stores in Los Angeles, Pasadena, Glendale, Hollywood, Santa Monica and Monrovia; L. H. Bennett, Northern California Distributor, 2112 Broadway, Oakland; 318 Stockton St., San Francisco.
Wayne Home Equipment Company, Fort Wayne, Indiana, represented by Hill and Stoops, 4214 Broadway, Oakland, Calif.

ELECTRICAL SUPPLIES AND EQUIPMENT
The Frink Company, 10th Ave. at 24th St., New York; 77 O'Farrell St., San Francisco
Drendell Electrical & Mfg. Co., 1345 Howard St., San Francisco.
Frank Adam Electric Company, 340 Fremont St., San Francisco, and 1127 Wall Street, Los Angeles; general offices, St. Louis, Mo.
Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pa., and First National Bank Bldg., San Francisco.
The Frink Company, 10th Ave. at 24th St., New York; 77 O'Farrell St., San Francisco
Sterling Bronze Co., Inc., 18 East 40th St., New York.

ELECTROLIERS
Northern Street Lighting Company, 389 Clementina Street, San Francisco.

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Gold Seal Enamel—Bass-Heuter Paint Company, San Francisco, Los Angeles, Portland, Seattle.

EXIT DEVICES
Von Duprin, manufactured by Vonnegut Hardware Company, Indianapolis; sold by D. A. Pancoast Co., 605 Market St., San Francisco.

FENCES—WIRE AND IRON
Michel & Pfeffer Iron Works, Harrison and Tenth Sts., San Francisco.

FIRE ESCAPES
Michel & Pfeffer Iron Works, 1415 Harrison St., San Francisco.
Palm Iron & Bridge Works, Sacramento.
Western Iron Works, 141 Beale St., San Francisco.

FIRE SPRINKLERS—AUTOMATIC
Fire Protection Engineering Co., 407 Exchange Building, 369 Pine Street, San Francisco.
Grinnell Company of the Pacific, Fifth and Brannan Sts., San Francisco.

FIXTURES—BANK, OFFICE, STORE, ETC.
Home Manufacturing Company, 552 Brannan St., San Francisco.
Mullen Manufacturing Co., 64 Rausch St., San Francisco.
Pacific Manufacturing Company, San Francisco, Los Angeles, Oakland and Santa Clara.
The Fink & Schindler Co., 228 13th St., San Francisco.

FLOORS—CORK, LINOLEUM, ETC.
Bonded Floors Company, Inc., D. N. & E. Walter & Co., San Francisco, and Broadway Department Store, Los Angeles.
The Paraffine Companies, Inc., San Francisco, Los Angeles, Oakland, Portland, Seattle.

FLOORS—REDWOOD BLOCK
Redwood Block Floor Company, Bryant at 18th St., San Francisco.
Pacific Redwood Floor Company, 311 California St., San Francisco, and 420 Grant Bldg., Los Angeles.

FLOOR CLIPS
Bull Dog Floor Clip Co., 77 O'Farrell St., San Francisco, and Hibernian Bldg., Los Angeles.

FLOORS—HARDWOOD
G. H. Brown Hardwood Lumber Company, 47th Avenue and East 12th Street, Oakland.
Inlaid Floor Company, 500 Alameda Street, San Francisco and 4067 Watts Street, Emeryville, Oakland.
"Perfection" Brand Oak Flooring, Arkansas Oak Flooring Co., Pine Bluff, Arkansas.
J. E. Higgins Lumber Company, San Francisco.
White Brothers, 5th and Brannan streets San Francisco; 500 High Street, Oakland.
Cellized Oak Flooring, Inc., Memphis, Tenn. Represented by Geo. H. Brown Hardwood Company, Oakland.

FREIGHT ELEVATOR DOORS
The Peelle Co., Brooklyn, N. Y., represented by Graham & Norton Company, 213 Minna St., San Francisco.

FURNACES—GAS
Payne Furnace and Supply Co., Los Angeles (see advertisement on page 4 for nearest representative).

FURNITURE—OFFICE, SCHOOL, CHURCH, THEATER
The Fink & Schindler Co., Inc., 218-68 13th St., San Francisco.
Home Mfg. Co., 552 Brannan Street, San Francisco.
Mullen Mfg. Co., 64 Rausch Street, San Francisco.
C. F. Weber & Co., San Francisco, Los Angeles, and Phoenix, Ariz.

GENERAL CONTRACTORS
Spivock & Spivock, Hobart Building, San Francisco.

GLASS
Cobbledick-Kibbe Glass Co., 566 Howard St., San Francisco.

GRAVEL AND SAND
Coast Rock & Gravel Co., Hunter-Dulin Bldg., San Francisco.
Del Monte White Sand, Del Monte Properties Co., Crocker Bldg., San Francisco.

GYMNASIUM EQUIPMENT—LOCKERS, ETC.
Ellery Arms Co., 583 Market St., San Francisco.

HANGERS—RELIANCE—
Graham & Norton Company, 213 Minna Street, San Francisco.

HARDWARE
Vonnegut hardware, sold by D. A. Pancoast Company, 605 Market St., San Francisco.
Palace Hardware Company, 581 Market St., San Francisco.
Richards-Wilcox Mfg. Co., represented by Ewing-Lewis Company, Hunter-Dulin Bldg., San Francisco; 408 S. Spring Street, Los Angeles.

HARDWOOD LUMBER
J. E. Higgins Lumber Co., San Francisco.
G. H. Brown Hardwood Lumber Co., 47th Ave. at E. 12th Street, Oakland.
White Brothers, 5th and Brannan streets, San Francisco; 500 High Street, Oakland.

HEATING—COAL FURNACE
Montague Range & Furnace Company, 376 Sixth St., San Francisco.

HEATING—ELECTRIC
Wesix Electric Air Heaters, manufactured and distributed by Wesix Heater Company, Rialto Building, San Francisco.
Apex Air and Water Electric Heaters, Sandoval Sales Company, 115 Jessie Street, San Francisco.
Majestic Electric Appliance Co. (bathroom heater), 590 Folsom St., San Francisco.
Weir Electric Appliance Company, 26th and Adeline Streets, Oakland.

HEATING—GAS
Payne Furnace and Supply Co., Los Angeles (see advertisement on page 4 for nearest representative).

HEATING—STEAM
Warren Webster & Company, Sharon Bldg., San Francisco, and 306 Crocker St., Los Angeles.

HEATING CONTRACTORS
Alex Coleman, 706 Ellis St., San Francisco.
Gilley-Schmid Company, 198 Otis St., San Francisco.
Hateley & Hateley, Mitau Bldg., Sacramento.
Mangrum & Otter, 827-831 Mission St., San Francisco.
W. H. Picard, 5656 College Ave., Oakland.
Luppen & Hawley, 3126-J St., Sacramento.
William F. Wilson Co., 240 Fourth St., San Francisco.
James A. Nelson, Inc., Howard and Tenth Sts., San Francisco.
Scott Company, 243 Minna St., San Francisco.
Geo. A. Schuster, 4712 Grove St., Oakland.
Geo. N. Zaro, 1311 Harrison St., San Francisco.
Herman Lawson, 465 Tehama Street, San Francisco.

HEATING EQUIPMENT
E. A. Cornely, Inc., 1452 Bush Street, San Francisco.
Illinois Engineering Co., 417 Market St., San Francisco.
Warren Webster & Company, Sharon Bldg., San Francisco, and 306 Crocker St., Los Angeles.
James A. Nelson, Inc., Howard and Tenth Sts., San Francisco.
B. F. Sturtevant Co., Monadnock Bldg., San Francisco; Los Angeles, Portland, Seattle.

HOLLOW BUILDING TILE (Burned Clay)
Cannon & Co., plant at Sacramento; Call Bldg., San Francisco.
N. Clark & Sons, 112-116 Natoma Street, San Francisco; works, West Alameda, California.
Gladding, McBean & Co., 660 Market St., San Francisco; 621 S. Hope St., Los Angeles; 1500 First Ave. South, Seattle; 454 Everett St., Portland; 16th and Dock Sts., Tacoma, and 22nd and Market Sts., Oakland.
W. S. Dickey Clay Mfg. Co., San Francisco and Oakland.

HOSE
The American Rubber Mfg. Co., Park Ave. and Watts St., Oakland, Calif.

HOSE RACKS AND REELS
American Rubber Mfg. Co., San Francisco, Oakland, Los Angeles and Portland, Ore.

HOSPITAL SIGNAL SYSTEMS
Chicago Signal Co., represented by Garnett Young & Co., 390 Fourth St., San Francisco.

INCINERATORS
Kerner Incinerator Company, 450 Clementina Street, San Francisco.
The Goder, sold by M. E. Hammond, Mezzanine, Pacific Bldg., San Francisco.
Kewanee Boiler Co., 635 Mission Street, San Francisco.

INDUSTRIAL LIGHTING EQUIPMENT
Westinghouse Electric and Mfg. Co., East Pittsburgh, Pa., and First National Bank Bldg., San Francisco.

INSPECTIONS AND TESTS
Robert W. Hunt Co., 251 Kearny Street, San Francisco.

INSULATION
"Insulex" manufactured by Pacific Portland Cement Co., Hunter-Dulin Bldg., San Francisco, & 1200 Chapman Bldg., Los Angeles.
Western Asbestos Magnesia Co., 25 South Park, San Francisco.
American Hair and Felt Company, 1615 N. Ditman St., Los Angeles.

INTERIOR DECORATING
George M. Hyde Co., Inc., 1366 Sutter St., San Francisco.

California State Board of Architecture

Northern District

Phelan Building, San Francisco

PRESIDENT - - - - - - - - - - - - FRED'K. H. MEYER
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BUYERS OF BUILDING MATERIAL

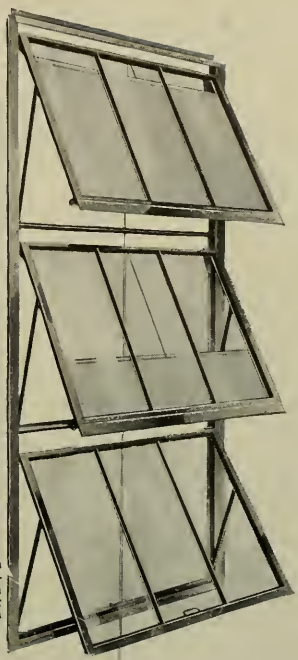
During a typical year, building construction in the United States represents a total expenditure of $7,-210,404,200. Of this vast sum, not quite half, or to be exact $3,201,184,900 goes for materials and fittings. The difference represents labor.

Who buys or authorizes the buying of this great quantity of building material? What part is influenced by the owner, by the architect, by the contractor, by the sub-contractor? Where does the speculative builder fit into the picture?

Taking the figures above as a starting point, a new book, "Buyers of the Building Field," has just been published by *Building Age,* New York. The pamphlet presents information and statistics of value to those identified with the building industry.

JOHNSON COMPANY SHOW ROOM

The S. T. Johnson Company, manufacturers of crude oil burners, have opened a downtown sales and display room at 2100 Broadway, Oakland. Two stores have been merged into a very attractive suite, nicely finished in bright colors and floors covered with smart linoleum rugs. On display are the various burners made by this company for domestic and commercial needs, including a full automatic domestic hot water heater for residences and apartments; automatic heater for residences, both large and small; full automatic furnace for homes and a model of a baker's oven. The latter, while not under oil pressure, serves to illustrate the possibilities of the Johnson burner for use in the modern bakery establishment. All of the other burners are under oil pressure and are operated by thermostatic control. Architects will find this display room of great advantage to them and to their clients. who may be interested in oil burning heat.



All three sash open. Note individual shades on each sash acting as awnings when fully drawn.

A Scientific Steel Window for Office and Public Buildings

The lower sash controls movement of upper—no window poles are required. Shades on sash act as awning reflecting light to ceiling and diffusing it. Of unusual quality throughout, Truscon Donovan Awning Type Steel Windows are moderately priced and practical for schools, institutions, hospitals or offices, etc. Write for catalog.

Truscon Steel Company, Youngstown, Ohio

Sales and Engineering Offices
In San Francisco, Los Angeles, Seattle, Portland
The Universal Window Company, 1916 Broadway, Oakland, Calif.
Pacific Coast Distributors

Upper two sash open—bottom sash closed.

Bottom sash open—upper two sash closed.

All three sash closed and weathertight.

MODEL 29

TRUSCON
DONOVAN AWNING TYPE
STEEL WINDOWS

Ad No. 1—1073

WHAT'S WHAT
IN MATERIALS

WHO'S WHO
AMONG CONTRACTORS

ALPHABETICAL LIST OF ADVERTISERS ON PAGE 125

KITCHEN EQUIPMENT
General Electric Refrigerator, L. H. Bennett, Rialto Building, San Francisco, and the George Belsey Company, Architects Building, Los Angeles.
James A. Nelson, Inc., Howard and Tenth Sts., San Francisco.
Mangrum Holbrook Company, 1235 Mission St., San Francisco.

LACQUERS
The Paraffine Companies, Inc., San Francisco, Los Angeles, Portland and Seattle.
Bass-Hueter Paint Company, San Francisco and all principal Coast cities.

LATHING MATERIAL—WIRE METAL, ETC.
Genfire Steel Co., Sheldon Bldg., San Francisco; Builders' Exchange, Oakland.
Pacific Materials Co., 444 Market Street, San Francisco.
Truscon Steel Co., Sharon Building, San Francisco.
National Steel Fabric Company, 274 Brannan St., San Francisco, and 1736 Naud St., Los Angeles.
Soule Steel Company, Rialto Building, San Francisco, and Los Angeles.

LAUNDRY MACHINERY AND EQUIPMENT
American Laundry Machinery Company, 921 Howard Street, San Francisco.
Troy Laundry Mach'y Co., Ltd., East Moline, Ill., and 951 Mission St., San Francisco.

LEATHER MATS
"Beatsall" Leather Mat Mfg. Co., 340 Sansome St., San Francisco.

LEATHER PANELS & WALL DECORATORS
Lackawanna Leather Co., represented by Gaylord Lee, 208 Fremont St., San Francisco.

LEATHER UPHOLSTERY
Lackawanna Leather Co., represented by Gaylord Lee, 208 Fremont St., San Francisco.

LIGHTING FIXTURES, OUTLETS, ETC.
The Frink Co., 10th Ave. at 24th St., New York, and 77 O'Farrell St., San Francisco.
Westinghouse Electric and Mfg. Co., First National Bank Bldg., San Francisco; general offices and works, Pittsburgh, Pa.
The Frink Company, 369 Lexington Avenue, New York, and principal Coast cities.
The Frink Company, 10th Ave. at 24th St., New York; 77 O'Farrell St., San Francisco
Sterling Bronze Co., Inc., 18 East 40th St., New York.

LIME PRODUCTS
United States Lime Products Corp., San Francisco, Los Angeles, Portland, Ore.

LINOLEUM
William Volker & Co., 631 Howard St., San Francisco, and 2301 E. 7th St., Los Angeles.
Bonded Floors Company, Inc., D. N. & E. Walter & Co., San Francisco, and Broadway Department Store, Los Angeles.
The Paraffine Companies, factory in Oakland; office, 475 Brannan Street, San Francisco.
W. & J. Sloane, 216 Sutter Street, San Francisco.
Van Fleet- Freear Company, 557 Howard St., San Francisco, and 420 S. Spring St., Los Angeles.

LUMBER
G. H. Brown Hardwood Company, 1044 47th Ave., Oakland.
Pacific Mfg. Co., San Francisco, Oakland, Los Angeles and Santa Clara.
Santa Fe Lumber Co., 16 California St., San Francisco.
J. E. Higgins Lumber Company, 423 Sixth St., San Francisco.
Sunset Lumber Company, First and Oak Sts., Oakland.
White Brothers, 5th and Brannan Sts., San Francisco, and 500 High St., Oakland.

MAIL CHUTES
Cutler Mail Chute Co., represented by Price Building Specialties Co., 683 Howard St., San Francisco and Continental Building Specialties Co., 1216 Hibernian Bldg., Los Angeles.

MARBLE
American Marble Company, 25 Columbus Square, San Francisco.
Ray Cook Marble Company, foot of Powell St., Oakland.
Joseph Musto Sons-Keenan Co., 635 N. Point St., San Francisco.
Vermont Marble Co., Coast branches, San Francisco, Los Angeles and Tacoma.
Tompkins-Kiel Marble Company, 505 Fifth Ave., New York; also Chicago, Philadelphia and San Francisco.
Clervi Marble and Mosaic Co., 1721 San Bruno Ave., San Francisco.

MASONRY ANCHORS
Steelform Contracting Company, Monadnock Bldg., San Francisco; Edwards & Wildey Bldg., Los Angeles.

METAL COVERED DOORS
Forderer Cornice Works, Potrero Ave., San Francisco.

METAL DOORS
Dahlstrom Metallic Door Company, 3350 E. Slausen Avenue, Los Angeles.

MILLWORK
The Fink & Schindler Co., Inc., 218-68 13th St., San Francisco.
Pacific Mfg. Co., San Francisco, Los Angeles, Oakland and Santa Clara.
Sunset Lumber Company, First and Oak Streets, Oakland.
Lannom Bros. Mfg. Co., Fifth and Magnolia Sts., Oakland.
Atkinson Mill & Mfg. Co., 2935 Chapman Avenue, Oakland.
Chicago Lumber Company of Washington, 66th and 69th Aves and Spencer Street, Oakland.

MONEL METAL
"Inco" brand, distributed on the Pacific Coast by the Pacific Foundry Company, Harrison and 18th Streets, San Francisco, and Eagle Brass Foundry, Seattle, Wash.

OIL BURNERS
Quiet-May Automatic Oil Burner Company, 959 Natoma St., San Francisco.
Rayfield Automatic Oil Burner, Pacific Coast Distributors, E. A. Cornely, Inc., 1452 Bush St., San Francisco.
S. T. Johnson Company, 1337 Mission St., San Francisco; 940 Arlington St., Oakland.
Vaughn-G. E. Witt Co., 4224-28 Hollis Street, Emeryville, Oakland.
W. S. Ray Mfg. Company, 170 Sutter St., San Francisco, and 2206 San Pablo Ave., Oakland.
Coen Company, 112 Market Street, San Francisco.
Wayne Home Equipment Company, Fort Wayne, Indiana, represented by Hill and Stoops, 4214 Broadway, Oakland, Calif.

ORNAMENTAL IRON AND BRONZE
Federal Ornamental Iron and Bronze Co., 16th St. and San Bruno Ave., San Francisco.
Michel & Pfeffer Iron Works, 1415 Harrison St., San Francisco.
Palm Iron & Bridge Works, Sacramento.

PAINTING, DECORATING, ETC.
The Tormey Co., 681 Geary St., San Francisco.
A. Quandt & Sons, 374 Guerrero Street, San Francisco.

PAINTS, OILS, ETC.
The Paraffine Companies, Inc., San Francisco, Los Angeles, Portland and Seattle.
Bass-Hueter Paint Company, San Francisco, Los Angeles, Portland, Seattle.
General Paint Company, Los Angeles, San Francisco, Oakland, Seattle, Spokane and Portland.

PANEL BOARDS
Drendell Electric & Mfg. Co., 1760 Howard St., San Francisco.
Frank Adam Electric Company, 340 Fremont St., San Francisco, and 1127 Wall Street, Los Angeles; general offices, St. Louis, Mo.
Westinghouse Elec. and Mfg. Co., First National Bank Bldg., San Francisco; general offices and works, Pittsburgh, Pa.

PANELS—HARDWOOD
White Brothers, 5th and Brannan Sts., San Francisco, and 500 High St., Oakland.

PANIC EXIT DEVICES
Von Duprin, manufactured by Vonnegut Hardware Company, Indianapolis; sold by D. A. Pancoast Co., 605 Market Street, San Francisco.

PARTITIONS—MOVABLE OFFICE
Pacific Mfg. Co., Monadnock Building, San Francisco; factory at Santa Clara.

PIPE—WROUGHT IRON
A. M. Byers Co., Pittsburgh, Pa., and Financial Center Bldg., Los Angeles.
Reading Iron Co., Reading, Pa., and Balboa Bldg., San Francisco.

PLASTER
"Empire," manufactured by Pacific Portland Cement Co., Hunter-Dulin Building, San Francisco, Portland, San Jose and Los Angeles.

PLASTER BASE
"Celotex," Western Asbestos Magnesia Co., 25 South Park, San Francisco.

PLASTER REINFORCING
Wickwire-Spencer Steel Company, Inc., 144 Townsend St., San Francisco.
National Steel Fabric Company, 274 Brannan St., San Francisco, and 1736 Naud St., Los Angeles.

PLASTERING CONTRACTORS
A. Knowles, Call Bldg., San Francisco.
MacGruer & Company, 266 Tehama Street, San Francisco, and Pacific Mutual Bldg., Los Angeles.

PLUMBING CONTRACTORS
Alex Coleman, 706 Ellis St., San Francisco.
Gilley-Schmid Company, 198 Otis St., San Francisco.
Hateley & Hateley, 1710 Tenth St., Sacramento.
Herman Lawson, 466 Tehama Street, San Francisco.
Luppen & Hawley, 906 7th St., Sacramento.
Scott Co., Inc., 243 Minna St., San Francisco.
Geo. N. Zaro, 1311 Harrison Street, San Francisco.
Wm. F. Wilson Co., 240 Fourth Street, San Francisco.
Geo. A. Schuster, 4712 Grove St., Oakland.
W. H. Picard, 5656 College Ave., Oakland.

PLUMBING SUPPLY HOUSES
H. Mueller Manufacturing Company, 1072-76 Howard St., San Francisco.
Standard Pacific Fixtures, 349 Sutter St., San Francisco.
Clarence Drucker, manufacturers' representative, 307 Minna St., San Francisco.

PRESSED STEEL
Berger Manufacturing Co., 1120 Mission St., San Francisco.

PRESSURE REGULATORS
Vaughn-G. E. Witt Co., 4224-28 Hollis Street, Emeryville, Oakland.

PUMPING MACHINERY
Simonds Machinery Co., 816 Folsom Street, San Francisco; 620 East 4th Street, Los Angeles.

PUMPS—HAND OR POWER
Ocean Shore Iron Works, 658 Eighth St., San Francisco.
S. F. Bowser & Co., Inc., 425 Brannan St., San Francisco.

REFRIGERATORS
McCray Refrigerator Sales Corp., Kendallville, Illinois; San Francisco office, 765 Mission St.,
"General Electric," sold by the George Belsey Company, Architects' Building, Los Angeles; L. H. Bennett, Rialto Bldg., San Francisco.

REGISTERS
Payne Furnace and Supply Co., Los Angeles (see advertisement on page 4 for nearest representative).

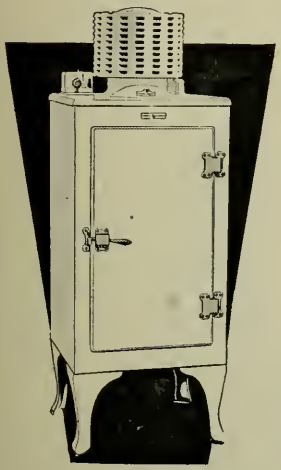
REINFORCING STEEL
Soule Steel Company, Inc., Rialto Bldg., San Francisco, and Los Angeles.
Gunn, Carle & Co., Inc., 444 Market St., San Francisco.
National Steel Fabric Company, 274 Brannan St., San Francisco, and 1736 Naud St., Los Angeles.
Pacific Coast Steel Co., Hunter-Dulin Bldg., San Francisco.
United Alloy Steel Corporation, Canton, Ohio; Western Sales Office, Santa Fe Bldg., San Francisco.
Truscon Steel Company, Sharon Bldg., San Francisco.

ROCK AND GRAVEL
Coast Rock & Gravel Company, General office, Hunter-Dulin Building, 111 Sutter Street, San Francisco.

ROOF MATERIALS
El Rey Products Co., 1633 San Pablo St., Los Angeles; 960 7th St., San Francisco; 66 Columbia St., Seattle; 850 E. Taylor St., Portland.
Kraftile Company, office and factory at Niles; 55 New Montgomery Street, San Francisco.

OVER 300,000 *users and* NOT ONE

has ever spent a cent for service or repairs



14 Reasons

. . . an hermetically sealed, dust-proof mechanism.
. . . a simple freezing regulator.
. . . a mechanism that requires no oiling.
. . . all troublesome machinery eliminated.
. . . a new standard of quiet operation.
. . . mounted on legs with broom-room underneath.
. . . no installation problem whatever.
. . . a sanitary, porcelain chilling chamber.
. . . the entire mechanism mounted on top.
. . . maximum food storage space in the cabinet.
. . . an appreciably lower cost of operation.
. . . a radically improved type of cabinet.
. . . absolutely no radio interference.
. . . an unqualified two-year guarantee.

Ask for

AIA File No. 32-C-3 Architects Handbook of Electric Refrigeration

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L. H. BENNETT
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551 Ramona St., Palo Alto
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318 Stockton St., San Francisco

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335 East Green St., Pasadena
312 North Brand Blvd., Glendale
1434 Wilshire Blvd., Beverly Hills
510 E. Santa Monica Blvd., Santa Monica
6713 Hollywood Blvd., Hollywood
7 West Anapamu St., Santa Barbara
2308 West 7th St., Los Angeles
108 E. Lime St., Monrovia
Wilshire and Western, Los Angeles

WHAT'S WHAT IN MATERIALS

WHO'S WHO AMONG CONTRACTORS

ALPHABETICAL LIST OF ADVERTISERS ON PAGE 125

"Melthoid" and "Ruberoid," also "Pabco" 10 and 20 year roofs, manufactured by the Paraffine Companies, Inc., San Francisco.
Gladding, McBean & Co., 660 Market St., San Francisco; 621 S. Hope St., Los Angeles; 1500 First Ave. South, Seattle; 454 Everett St., Portland; 15th and Dock Sts., Tacoma, and 22nd and Market Sts., Oakland.
N. Clark & Sons, 112-116 Natoma Street, San Francisco; works, West Alameda, California.
W. S. Dickey Clay Mfg. Co., 604 Mission St., San Francisco.
Jones Brothers Asbestos Supply Co., 500 Second St., San Francisco.
Johns-Manville Corporation of California, 159 New Montgomery St., San Francisco.
United Materials Co., Sharon Building, San Francisco.
Western Asbestos Magnesia Company, 25 South Park, San Francisco.
Los Angeles Paper Mfg. Co., 1633 North San Pablo St., Los Angeles.

RUGS AND CARPETS
W. & J. Sloane, 216 Sutter St., San Francisco.

SAFETY TREADS
Pacific Materials Co., 444 Market St., San Francisco.
Price-Teltz Company, 683 Howard St., San Francisco.

SASH CHAINS
American Chain Company, Inc., Bridgeport, Conn., and 425 Second St., San Francisco.
The Smith & Egge Mfg. Co., P. O. Box 1040, Bridgeport, Conn.; 506 American Bank Bldg., Los Angeles.

SCAFFOLDING FOR CONTRACTORS
Steelform Contracting Company, Monadnock Bldg., San Francisco; Edwards & Wildey Bldg., Los Angeles.

SEATING—SCHOOL, THEATER, CHURCH
Home Manufacturing Company, Inc., 552 Brannan St., San Francisco.
C. F. Weber & Co., San Francisco, Los Angeles, Phoenix, Ariz.; Reno, Nevada.

SELF-RELEASING FIRE EXIT DEVICES
Von Duprin, manufactured by Vonnegut Hardware Company, Indianapolis; sold by D. A. Pancoast Co., 605 Market St., San Francisco.

SHADES
William Volker & Co., 631 Howard Street, San Francisco; 2301 East 7th Street, Los Angeles.

SHEATHING AND SOUND DEADENING
Western Asbestos Magnesia Co., 25 South Park, San Francisco.

SHEET METAL WORKS
Forderer Cornice Works, Potrero Ave., San Francisco.

SHOW CASES
Home Manufacturing Company, Inc., 552 Brannan St., San Francisco.
Mullen Manufacturing Company, 64 Rausch St., San Francisco.

SOUND ABSORBING TREATMENT
Johns-Manville Corporation, 159 New Montgomery St., San Francisco.

SIGNALING & PROTECTIVE SYSTEMS
Garnett, Young & Co., 390 Fourth St., San Francisco.

STEEL FABRIC
National Steel Fabric Co., 274 Brannan St., San Francisco, and 1736 Naud St., Los Angeles.
Wickwire - Spencer Steel Corporation, 144 Townsend St., San Francisco.
Soule Steel Company, Rialto Bldg., San Francisco, and Los Angeles.

STEEL FORMS
Steelform Contracting Company, Monadnock Bldg., San Francisco; Edwards & Wildey Bldg., Los Angeles.

STEEL TANKS
Ocean Shore Iron Works, 56 Eighth St., San Francisco.

STEEL LUMBER
Genfire Steel Co., Sheldon Bldg., San Francisco; Builders' Exchange, Oakland.

STEEL SASH
Bayley-Springfield solid steel sash, sold by Pacific Materials Co., 444 Market St., San Francisco.
"Fenestra" Solid Steel Sash, manufactured by Detroit Steel Products Co., factory sales office, 526 Hunter-Dulin Bldg., San Francisco.
Berger Manufacturing Co., 1120 Mission St., San Francisco.
Michel & Pfeffer Iron Works, 1415 Harrison St., San Francisco.
Truscon Steel Company, 74 New Montgomery St., San Francisco.

STEEL SASH AND DOORS
W. C. Lea, 653 South Clarence St., Los Angeles.

STEEL—STRUCTURAL
Golden Gate Iron Works, 1541 Howard St., San Francisco.
Judson Pacific Company, C. F. Weber Bldg., Mission and Second Sts., San Francisco; shops, San Francisco and Oakland.
McClintic - Marshall Company, 621 Florida Street, San Francisco.
Herrick Iron Works, 18th and Campbell Sts., Oakland.
Pacific Coast Eng. Co., foot 14th St., Oakland
Pacific Coast Steel Co., Hunter-Dulin Bldg., San Francisco.
Palm Iron & Bridge Works, Sacramento.
Schrader Iron Works, Inc., 1247 Harrison St., San Francisco.
Western Iron Works, 141 Beale Street, San Francisco.

STONE
Indiana Limestone Company, Tribune Tower, Chicago, Ill., and Crocker First National Bank Bldg., San Francisco.

STORE FRONTS
Zouri Drawn Metals Company, Chicago Heights, Illinois. (Zouri Company of California 1208 Howard St., San Francisco.)

STORE FURNITURE
Berger Manufacturing Co., 1120 Mission St., San Francisco.

STREET LIGHTING EQUIPMENT
Westinghouse Electric and Mfg. Co., East Pittsburgh, Pa., and First National Bank Bldg., San Francisco.

SWITCHES AND SWITCHBOARDS
Drendell Electrical & Mfg. Co., 1345 Howard St., San Francisco.
Westinghouse Elec. & Mfg. Co., First Nat. Bank Bldg., San Francisco; general offices and Works, Pittsburgh, Pa.

TELEPHONES—AUTOMATIC, PRIVATE
Automatic Electric Inc., Chicago, Ill.; 1112 Pacific Finance Bldg., Los Angeles.

THERMOSTATS FOR HEAT REGULATION
Johnson Service, Milwaukee, Wis.; Rialto Building, San Francisco.

TERRA COTTA
N. Clark & Sons, 116 Natoma Street, San Francisco.
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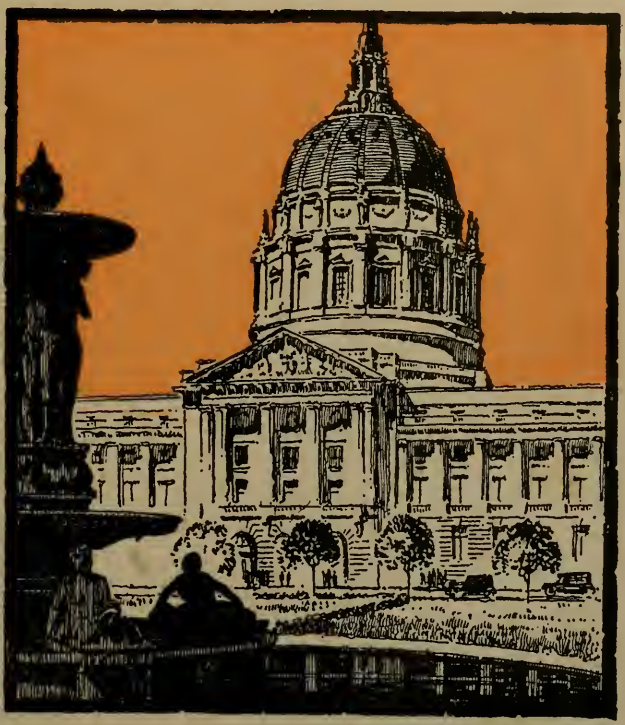

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Who's Who in this Issue

THOMAS, GRAINGER & THOMAS, architects of the new Kings County hospital, Seattle, Wash., have been prominently identified with the practice of architecture in Seattle for a considerable period. The senior member, Harlan Thomas, has been in practice for thirty-five years, coming to Seattle from Denver, Colorado, about twenty-five years ago. He has made several trips abroad for architectural study, bringing back architectural sketches which displayed his ability as an artist as well as his architectural knowledge and appreciation. He has served two terms as President of the Washington State Chapter, American Institute of Architects, and besides being in active practice, is now at the head of the Department of Architecture, University of Washington. Clyde Grainger was associated with the practice of Mr. Thomas many years before entering the firm. He is a graduate of the University of Washington. Donald P. Thomas is a graduate of the Architectural School of the University of Pennsylvania and prior to his entrance into the firm had experience in New York offices, supplemented by study abroad. Thomas, Grainger and Thomas are all members of the American Institute of Architects.

BLAINE & OLSON, awarded an Honor Certificate for their Frick School in Oakland, illustrated in this number, have been practicing architecture in Oakland for the past three years, or since the death of Mr. Wythe, who was the senior member of the firm. Roger W. Blaine is a graduate of the University of Pennsylvania, class of 1917. After spending some time abroad he gained added experience in the office of Lewis P. Hobart, architect of San Francisco. David Olson came to California from Chicago where he spent some time in the office of D. H. Burnham. Among the buildings designed by this firm are a number of Oakland schools and churches and several unusual Spanish type apartment and commercial buildings at Carmel and Pebble Beach.

GEORGE W. KELHAM, who received an Honor Award for his design of Bowles Hall, University of California, has been practicing architecture in San Francisco since the erection of the Palace hotel, following the earthquake and fire in 1906. Some of the most notable office structures in San Francisco have been designed by Mr. Kelham's office. Mr. Kelham succeeded John Galen Howard as architect of the University of California buildings in Berkeley.

WILLIAM WILSON WURSTER, designed the Warren Gregory house in Santa Cruz, which is illustrated on another page, and which was given an Honor Award by a jury of architects recently. Mr. Wurster is a University of California graduate and a young architect of promise. His offices are located at 260 California street, San Francisco.

ALBERT FARR AND J. FRANCIS WARD, given an Honor Award for their design of the house in Presidio Terrace, San Francisco, for William S. Lowe, have been associated with the practice of architecture in San Francisco for five years. Prior to that time Mr. Farr was by himself and a large number of the stately Tudor houses, today landmarks in Piedmont, were designed by him. Mr. Farr is one of the pioneer architects of San Francisco and his work in domestic architecture is favorably known throughout the country. Mr. Ward entered the firm in 1923, coming to San Francisco from New Zealand.

DEAN AND DEAN, architects of Sacramento, designed the George G. Pollock house in that city and also the Westminster Presbyterian church in Sacramento, both of which are illustrated in this number by reason of their having been given an Honor Award by the Northern Chapter. The personnel of the firm consists of Charles F. Dean, James S. Dean and Gene Kenyon. Charles F. Dean is recognized as one of the cleverest architectural designers on the Pacific Coast. James S. is a member of the Northern Division, State Board of Architecture, and he is also a director of the Northern California Chapter of the A. I. A.

ASHLEY, EVERS AND HAYES, who received an Honor Award for their Junior League House, San Francisco, have been practicing architecture in San Francisco for a period of ten or more years, although Mr. Hayes, an engineer, has not been a member of the firm quite that long. A short biography of Mr. Evers appeared in this Department last month. Mr. Ashley, the senior member of the firm, is a graduate of the University of California, School of Architecture, Class of 1908, with degree of L. B. After traveling abroad he was employed for a time in the offices of Reed & Stem and Palmer & Hornbostel in New York City.

WILLIS POLK & COMPANY, whose California Golf Club building is illustrated elsewhere in this issue, have been practicing as a company since the death of Mr. Polk about five years ago. The personnel includes James H. Mitchell, graduate of the University of California, 1911, and Austin Moore, who is in charge of the business end of the firm. Some of the more important buildings designed by Willis Polk & Company are the Merner house, which received an Honor Award two years ago, the Marine View Apartments, San Francisco, the St. Francis Yacht Club and the residence of Mrs. I. W. Hellman, San Francisco.

F. W. FITZPATRICK, who writes in this number of his ideas for building a concrete tube or bridge under the San Francisco Bay to Oakland, has been a frequent contributor to The Architect and Engineer for the past fifteen years. Mr. Fitzpatrick is a consulting architect of national reputation and holds claim to being one of the first architects to use structural steel frame in an office building of any considerable height. His present address is Evanston, Illinois.

REED AND CORLETT, whose Mutual Stores office building in Oakland, is shown in this number, have been associated in the practice of architecture since 1917. Prior to that date Walter D. Reed conducted the office alone. Will G. Corlett came into the firm from the offices of John Galen Howard and Frederick H. Meyer, after graduating from the University of California in 1910. Important work done by this firm includes the Oakland Bank of Savings, Peralta Hospital and Financial Center Building, Oakland.

FREDERICK H. REIMERS, whose Ray Wilson house is illustrated in this number, is a practicing architect in Oakland. (See Who's Who Section, March issue, 1929.)

BIRGE N. CLARK, architect of the Kathleen Norris house in Palo Alto, and the Central Fire and Police Station, given Honor Awards by the Northern California Chapter, A. I. A., has been practicing architecture in Palo Alto since the World War. (See Who's Who, Architect and Engineer for June 1929.)

HENRY H. GUTTERSON, architect of a hillside stucco house for Dr. Evans of Berkeley, and illustrated in this issue, has been practicing architecture in San Francisco for sixteen years. He was one of the first students in the new School of Architecture at the University of California, directed by John Galen Howard. Mr. Gutterson spent three years in study and travel abroad and attended the Ecole des Beaux Arts in Paris. Mr. Gutterson is the architect of the new Christian Science Benevolent Sanitarium now under construction in San Francisco. He designed the White Company building in the same city.

W. H. RATCLIFF, Jr., of Berkeley, architect for Mills College, is a graduate of the University of California, Class of 1903. Mr. Ratcliff spent two years in the office of John Galen Howard and later studied in Rome and Paris. He entered the profession as an architect in 1909 and in 1913 to 1918 he served as City Architect for Berkeley. Among his buildings, besides the Mills College Music Hall, illustrated in this number, he designed the San Francisco Commercial Club, Berkeley Country Club, American Trust Building, Berkeley, Pacific School of Religion and a large number of fine residences.

CHARLES W. McCALL, architect of Oakland, is a native of that city. At the age of eight he was taken abroad, first living in Guernsey, Channels Isles on the Normandy coast. Six years later he went to England, where he attended the Perkins Academy. Upon returning to California he spent three years with Oakland and San Francisco architects before establishing a business for himself.

Since beginning his practice he has designed over seven hundred residences and commercial buildings, among them the Wakefield Medical Building, Blue Triangle Club, East Bay Bank and Robert Dollar Building and Annex, San Francisco.

Mr. McCall is a member of the San Francisco Chapter of the American Institute of Architects, the Society of Architects of Alameda County and chairman of the Architectural Bureau, composed of four architects who act in an advisory capacity for the proposed development in St. James Wood, Piedmont.

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VOLUME 98 | AUGUST, 1929 | NUMBER 2

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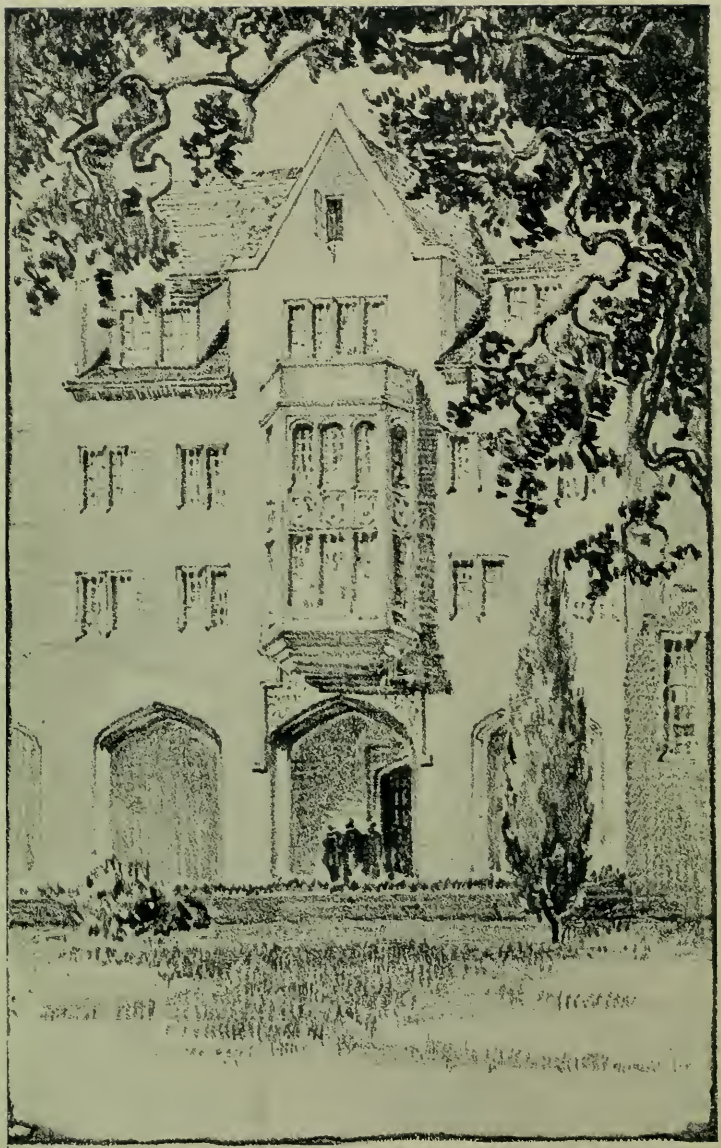
BOWLES HALL, which Mr. Dinwiddie has sketched for this month's Frontispiece, is the gift of Mrs. P. E. Bowles to the University of California, Berkeley, in memory of her husband, Philip E. Bowles, former Oakland capitalist. The architect, George W. Kelham, was recently given an Honor Award for his excellent design by a jury of Los Angeles architects. The building, a dormitory for men students, is designed in the English Tudor style and was built at a cost of approximately $350,000.



Pencil Sketch by John Ekin Dinwiddie

BOWLES HALL, UNIVERSITY OF CALIFORNIA, BERKELEY
GEORGE W. KELHAM, ARCHITECT

The ARCHITECT AND ENGINEER

VOLUME XCVIII AUGUST, 1929 NUMBER TWO

IMPRESSIONS OF THE SAN FRANCISCO HONOR AWARD EXHIBITION

By: Geo. Frederic Ashley, A.I.A.

I WENT to the de Young Memorial Museum, in Golden Gate Park, San Francisco, three times in an attempt to collect material for this review, and each endeavor ended in a hasty retreat outside to cool off. Who would have guessed that anything more than incidental ventilation would ever be required for an exhibition hall in Golden Gate Park? On my third visit, a Sunday which turned out to be the hottest of all, I heard a gardienne pleading with a gendarme to do something about it. His reply was to the effect that not being the "arrchyteck" he could not create windows and ventilators.

GRILLE DOOR, NORRIS HOUSE, PALO ALTO
Birge N. Clark, Architect

I brought away a catalogue marked here and there with at least one example of each exhibitor's work for praise—fulsome when meant, faint when otherwise. But I found later that the heat of the exhibition room had evaporated the memory of the meaning of much of my improvised shorthand. So rather than risk making mistakes I had to try to satisfy the Editor with general impressions instead of specific ones.

* * *

Taking the exhibition as a whole, it did not seem as interesting as that of 1927. But we must remember that the last one was reinforced by Honor Award material from

Southern California. Also, local work had then been accumulating unshown for years through a period of great activity in building.

One missed a good feature of previous shows—the presentation of the development of a building from the first conference with a client to completion. The committee for the next exhibition may be sure of creating great excitement if they can arrange to have the San Francisco Veteran's Memorial and Opera House so presented.*

I was glad to find some eminent architects represented who were conspicuous by their absence at the 1927 exhibit. After all, the object of this whole affair is education of the public. It is not really competition.

As for the general tendencies shown in the exhibition, in residential work, attempts to be "modern" are confined to interiors, furnishings and lighting fixtures. Fortunately, there is no sign that either the pancake or the asparagus forms of modern exterior treatment (to use Mr. Magonigle's classifications) are going to disturb the modern form and detail. Nothing yet that is represented who were conspicuous by their absence at the 1927 exhibit. After all, the object of this whole affair is education suavity of our suburban landscapes. The design of city buildings, as is quite proper, reveals a fair amount of experimentation, adaption, compilation, and/or imitation of ranks as achievement, though. There are a number of men in San Francisco who possess the necessary strength as designers to evolve a real solution of the problem of producing something modern, beautiful and American at the same time. Given the necessary opportunities, it is to be expected that

HOUSE OF CHAS. AND KATHLEEN NORRIS, PALO ALTO
Birge N. Clark, Architect

*EDITOR'S NOTE: We think Mr. Ashby is waxing a bit sarcastic here. That deserted basement in the Civic Center is becoming worse than an eyesore. It has been six months since work was suspended, and no one seems to know how much longer we shall have to wait before building operations are resumed.

the Honor Award exhibits of 1933 or 1935 will contain some very fair work of this nature; 1931 is too soon to expect it.

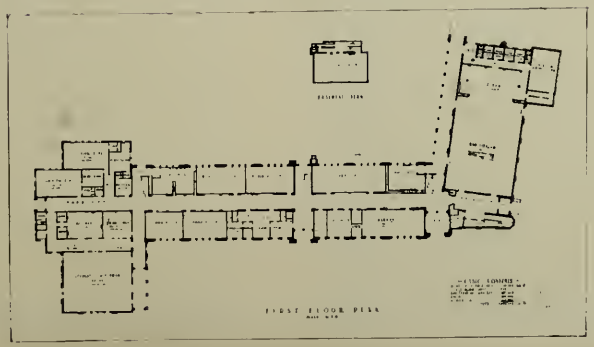
Curiously enough, the space assigned was not sufficient for the proper showing of the material available. Consequently, the exhibits which cost the most and took the greatest trouble to prepare—renderings in color framed under glass—may as well have been left out. The hanging committee was forced to sky them, so they were not seen except by those who paid for them.

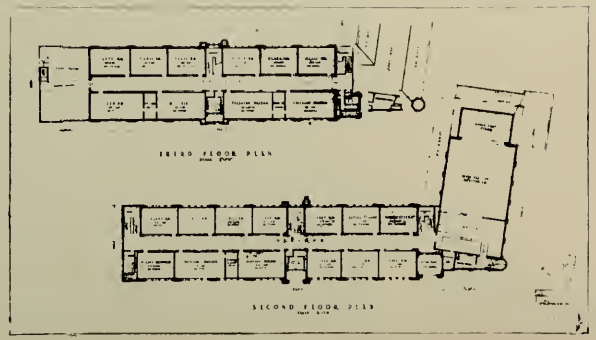
PATIO, HOUSE OF CHAS. AND KATHLEEN NORRIS, PALO ALTO

This brings me to some suggestions I wish to submit for the consideration of future committees. As the principal object of the Honor Awards is to encourage better building, would it not be well to mention the builder in the catalogue, as well as the owner and architect? That would give us something more to offer our contractors than a mixture of browbeating and cries of encouragement. To go farther, why not encourage the rear ranks of our own profession and give credit to the draughtsman principally responsible for each job? Furthermore, it would seem that, as an exhibition of the work of architects, there should be a larger proportion of drawings shown. Could it not be made a rule that, in addition to the plans, at least one drawing be presented besides the photographs of each building? This should be an interesting working drawing or scale detail, preferably one made by the draughtsman before mentioned. This would certainly add interest to the exhibits for the architects and probably for the public as well.

There are two items in the May "Octagon" that contain useful hints. One was the announcement of the Philadelphia Chapter,

W. P. FRICK HIGH SCHOOL, OAKLAND, CALIFORNIA
Blaine and Olson, Architects





Exterior of Port Costa brick

W. P. FRICK HIGH SCHOOL, OAKLAND, CALIFORNIA

BLAINE AND OLSON, ARCHITECTS

A. I. A., of an exhibition to be held this fall:

"It is further suggested that thought be given to the size and disposition of photographs or enlargements so that they may bear a *proper relation to the importance of the work shown,* and to line drawings or color work, which it is hoped each office will begin now to arrange for a comprehensive representation for our Exhibition."

The other is in Louis La Beaume's review of the Exposition of Architecture at the Grand Central Palace in New York last April:

"Even simple little buildings, swelled by the photographer's art to proportions that looked larger than life, knocked one's eye out."

In short, the size of photographs and mounts should be specified or limited, and proportioned to the class of entry. One would not expect to present adequately an office building in a photgraph of a size suitable for a small residence.

* * *

Not to carp, one must say that our show was largely a triumph of photography. A house must be poorly designed, indeed, that will not provide material for several good photos of detail or parts. All fronts of a house or building should be given presentation in order to qualify for an award.

I know these things present more burdens for our already over-worked committees, but we have arrived at a point where the quantity of material presented is more than sufficient and more attention will have to be paid to the quality.

At this point, acknowledgment is due to the devoted and excellent work of Raymond W. Jeans and his Committee* on the Exhibition, for which the Chapter and the public at large should be most grateful.

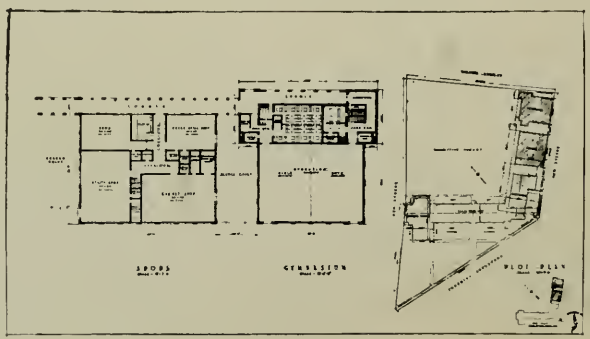
One cannot escape the fact that the exhibition reflected a woful shortage of work of a serious, permanent nature.

Monumental work, apparently and unfortunately, does not exist.

It is quite evident that the expensive privilege of designing houses has been recaptured by the architects from the carpenters and builders. But surely the proportions in exhibited material do not represent the actual proportions between houses and the other, more substantial, types of work receiving benefit of architecture!

The inference that I draw is that the profession, by and large, is not satisfied with the results it is achieving in the design of commercial, institutional and educational buildings. Many of these types of structures (I do not refer to those exhibited), particularly commercial buildings and apartments, are such as to inspire little pride in the hearts of their designers. They give no pleasure and produce no confidence. We must insist on personal satisfaction in our work at the expense, for a while, of our profits (if any). Five years of good resolve lived up to by most of us will make a wonderful difference in raising standards. It will result, through education of the public and prospective clients, in a general demand for good design in all lines of building in-

*Messrs. Allen, Bertz, Gutterson, Osborne, Reimers and Stringham.



PLANS, W. P. FRICK HIGH SCHOOL, OAKLAND
Blaine and Olson, Architects

stead of in houses only, as is practically the situation now.

Of course in setting down these thoughts I am like the pastor with his congregation. His remarks, directed to those practically assured of salvation, are really intended for those who never go to hear him. I mean these criticisms particularly for those who, bearing the title of architect do not attempt to attain standards such as to qualify them for membership in the Institute, and more particularly to those who, having accepted the obligations of membership in the Institute, do not produce works which they consider worthy of consideration for awards of honor. Sad to relate, there are those who produce creditable work yet neglect to take the necessary trouble to join with their fellow architects in this worthy effort in public education and advancement of architecture and construction generally. We can only hope these will do better the next time opportunity offers.

As far as house design goes, quite a few more architects, especially younger ones, have learned how to lie acceptably and consistently. I was reminded of what I heard D. K. Boyd say some years ago to the Chapter in Los Angeles regarding western houses: "They look as solid as the Rock of Ages in front, but when you go around in back—nothing but boards and plaster." He laid it to the movie influence. Well, a few now have attained the Rock-of-Ages treatment on all four sides.

So the next step in house architecture is to realize these wonderful dreams in a permanent form. After all, in terms of what should be normal standards of construction, most houses are but temporary affairs—good for twenty years or so, then to be wrecked or rebuilt. Residential practice will not attain the dignity it deserves until it demands construction in real materials. Every time a house is built with masonry walls it will make it easier for another to attain the same standard. And with volume will come reduction in cost, until good, substantial work will become a matter of course.

Sooner or later some subdivider will adopt this thought and establish permanence of value in his tract by providing in the restrictions for the use of permanent materials in exterior walls of houses built there. Substantial (and somewhat more costly) construction would tend to eliminate superfluities of detail and help crystalize a rational, indigenous style.

And for all types of structures, has the time not come when we can extend the spirit of the Canons of Ethics, common honesty, to include design and construction, as well as the business side of our profession? May the epoch soon arrive when A. I. A. will designate an architect, whose wooden frame houses are frankly wood on the outside, whose stucco houses have brick, tile or concrete walls, who uses no sheet metal to represent another material, who never uses glazed spandrels and such-like to make the lower two or three stories of his buildings appear as one, whose buildings are presentably and consistently designed and finished on all exposed walls—let each one complete this list by examining his own conscience. By taking thought we may add cubits to our respective artistic and moral statures.

* * *

P. S. Since writing the foregoing, I have learned that the jury withheld the special award for work of exceptional merit, such as was won by the Temple Emanu-El of Sylvain Schnaittacher and Bakewell & Brown, Associated, in 1927. I was sorry to hear it, but it confirmed the general impression conveyed by the material on exhibit this year.

On reading the classifications under which some buildings winning awards were placed, one cannot help wondering how the said classifications were arrived at. To add another to previous suggestions, would it not be in order for those submitting exhibits to state the classifications of buildings they belong in? Then only in cases of obvious error would the exhibition committee or jury be required to determine classifications.

* * *

The official wording of the jury's report addressed to the Executive Committee of the Northern California Chapter, American Institute of Architects follows:

The jury of honor awards for 1929, appointed by the Northern California Chapter of the American Institute of Architects, met in San Francisco, June 20th to 23rd inclusive.

A. H. Albertson, A. I. A., of Seattle; Carleton M. Winslow, A. I. A., of Los Angeles; and David C. Allison, F. A. I. A., of Los Angeles, constituting the jury of award, went thoroughly over the work entered for this year's awards and exhibited in the De-Young Memorial Museum, and found it to be in general very good, and much of it fine, indeed.

As will be noted, most of the awards were made in the various groups of small and moderate size buildings and in a number of group subdivisions no exhibits were were for the most part visited and examined in detail, proving as a rule to be better in reality even than was indicated by the photographs.

In journeying about, the general impression gained of the later large work, commercial and otherwise, in the district was excellent indeed, and the number of great projects now under construction, together with drawings of projects on the boards in architects' offices and in contemplation for the future—many of them in the exhibition but not eligible for this year's award—give full promise of a volume of most interesting material for the next honor awards judgment.

There is marked evidence in those residential sections where an approach to gen-

AUDITORIUM, W. P. FRICK HIGH SCHOOL, OAKLAND
Blaine and Olson, Architects

submitted and accordingly no awards were made. The vote of the jury was unanimous in all cases and the buildings premiated eral design control and supervision has been made, of the great value to the community at large, as well as to the individual owners, of this kind of effort; and a growing appreciation of the very definite commercial value of good architecture in all types of buildings, as well as its cultural value, is most encouragingly in evidence.

NOTE:—The jury regretted that the Congregational Church of Oakland, a building of outstanding merit, recently completed by John Galen Howard, architect, had not been submitted in the honor awards exhibition.

The jury awards follow, photographs and plans for each appearing in this issue:

DWELLINGS

Six rooms and under—Residence of Mr. and Mrs. Ray Wilson, Oakland—Frederick H. Reimers, architect.

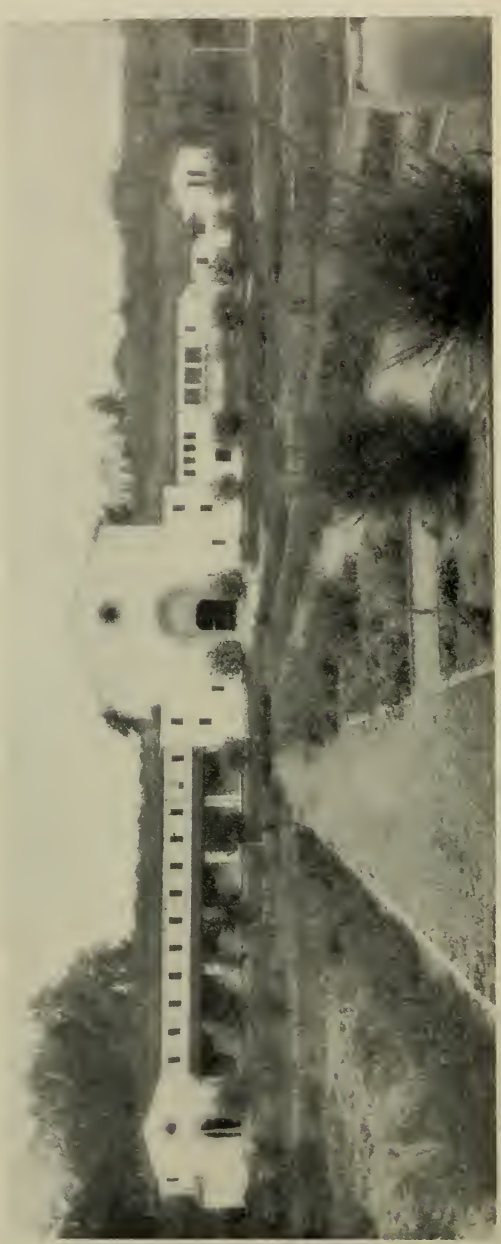
Seven to eleven rooms—Farmhouse for Mrs. Warren Gregory, Santa Cruz County—William Wilson Wurster, architect. Residence of Dr. Herbert M. Evans, Berkeley—Henry H. Gutterson, architect.

Twelve rooms and over—Residence of William H. Lowe, San Francisco—Albert Farr, architect, J. Francis Ward, associate. Residence of Charles and Kathleen Norris, Palo Alto—Birge M. Clark, architect. Residence of George G. Pollock, Sacramento—Dean & Dean, architects.

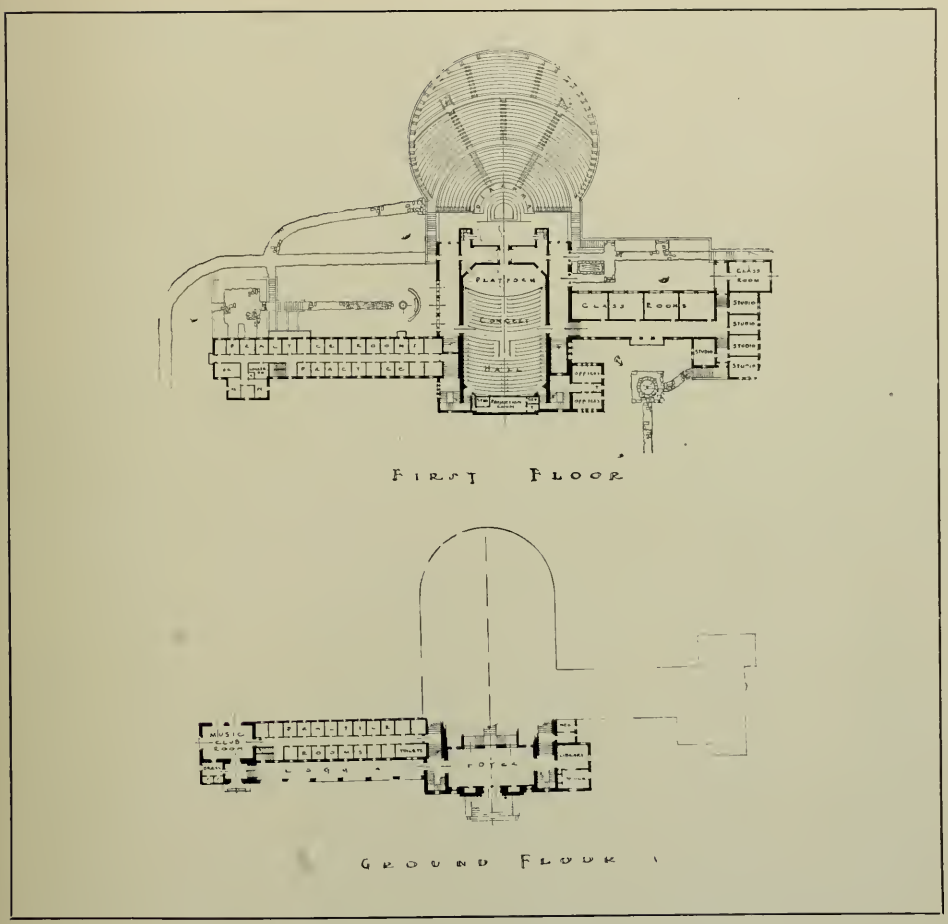
CITY CLUBHOUSES

Junior League House, San Francisco—Ashley, Evers & Hayes, architects.

AUDITORIUM, MUSIC BUILDING, MILLS COLLEGE, OAKLAND
W. H. Ratcliff, Jr., Architect



MUSIC BUILDING, MILLS COLLEGE, OAKLAND, CALIFORNIA
W. H. RATCLIFF, JR., ARCHITECT



PLANS, MUSIC BUILDING, MILLS COLLEGE, OAKLAND
W. H. RATCLIFF, JR., ARCHITECT

COUNTRY CLUBHOUSES

California Golf Club, San Mateo County—Willis Polk & Co., architects.

APARTMENT HOUSES

Bowles Hall, University of California, Berkeley—George W. Kelham, architect.

COMMERCIAL BUILDINGS

Mutual Stores office buildings and plant, Oakland—Reed and Corlett, architects.

CHURCHES

Westminster Presbyterian Church, Sacramento — Dean & Dean, architects.

SCHOOL BUILDINGS

Colleges, etc., Music Building, Mills College, Oakland—W. H. Ratcliff, Jr., architect. High schools, etc., W. P. Frick High School, Oakland—Blaine & Olson, architects.

PUBLIC BUILDINGS

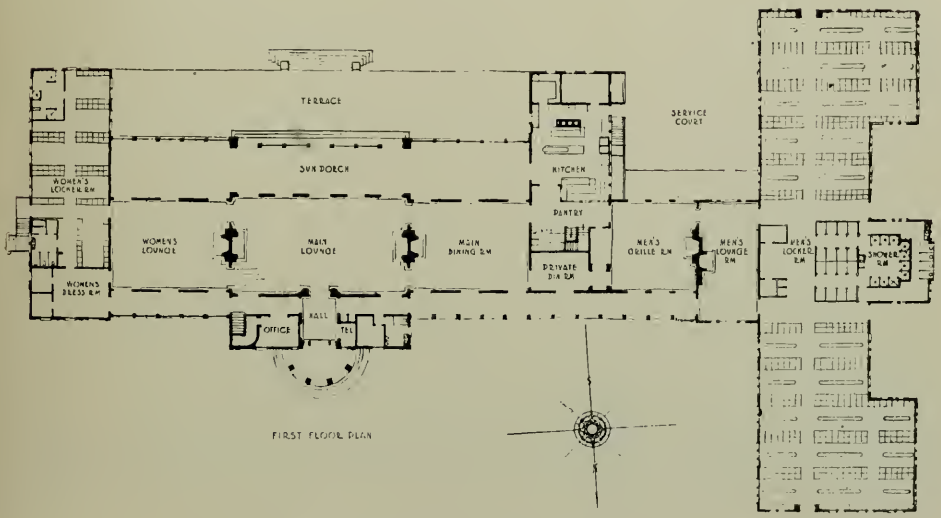
Central fire and police station, Palo Alto—Birge M. Clark, architect.

FINE AND ALLIED ARTS

Cement trescoes — Simeon Pelenc. Architectural Models—Miss Julian C. Mesick.

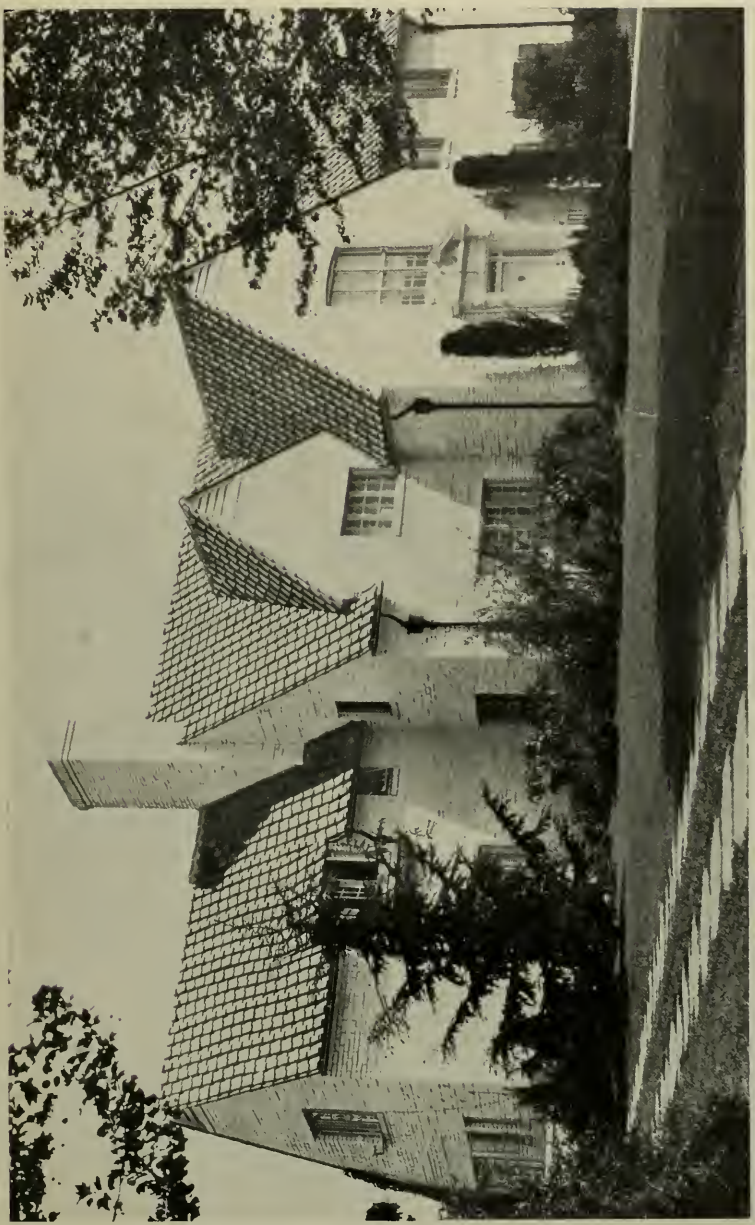
ENTRANCE DETAIL, MUSIC BUILDING, MILLS COLLEGE, OAKLAND
W. H. RATCLIFF, JR., ARCHITECT

CALIFORNIA GOLF CLUB, SAN MATEO COUNTY, CALIFORNIA
Willis Polk and Company, Architects

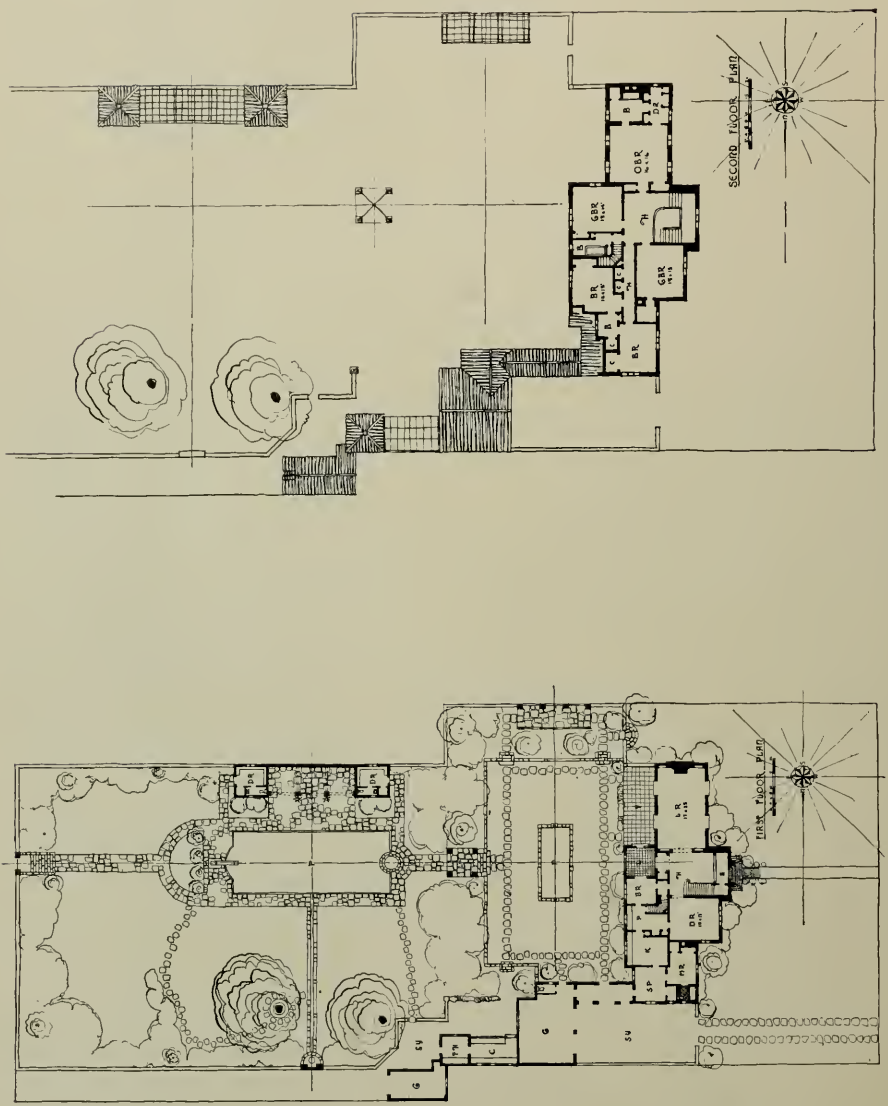


PLAN, CALIFORNIA GOLF CLUB, SAN MATEO COUNTY, CALIFORNIA
Willis Polk and Company, Architects

CALIFORNIA GOLF CLUB, SAN MATEO COUNTY, CALIFORNIA
WILLIS POLK AND COMPANY, ARCHITECTS



HOUSE OF GEORGE G. POLLOCK, SACRAMENTO, CALIFORNIA
DEAN AND DEAN, ARCHITECTS



PLANS, HOUSE OF GEORGE G. POLLOCK, SACRAMENTO, CALIFORNIA
DEAN AND DEAN, ARCHITECTS

JUNIOR LEAGUE HOUSE, SAN FRANCISCO, CALIFORNIA
ASHLEY, EVERS AND HAYES, ARCHITECTS

JUNIOR LEAGUE HOUSE, SAN FRANCISCO, CALIFORNIA

ASHLEY, EVERS AND HAYES, ARCHITECTS

Interior Furnishings by Geo. M. Hyde Company

PLANS, JUNIOR LEAGUE HOUSE, SAN FRANCISCO
ASHLEY, EVERS AND HAYES, ARCHITECTS

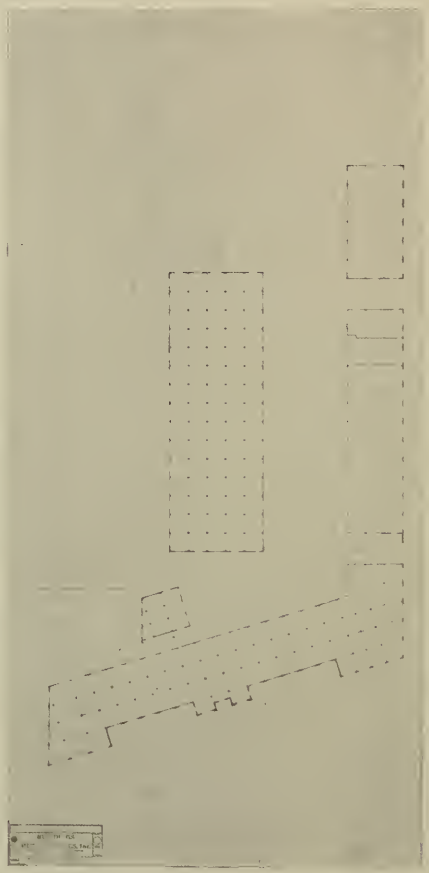
BOWLES HALL, UNIVERSITY OF CALIFORNIA, BERKELEY, CALIFORNIA
GEORGE W. KELHAM, ARCHITECT

Photo by Starkweather

WESTMINSTER PRESBYTERIAN CHURCH, SACRAMENTO, CALIFORNIA
DEAN AND DEAN, ARCHITECTS

TOWER, MUTUAL STORES OFFICE BUILDING, OAKLAND, CALIFORNIA
REED AND CORLETT, ARCHITECTS

MUTUAL STORES OFFICE BUILDING, OAKLAND, CALIFORNIA
REED AND CORLETT, ARCHITECTS

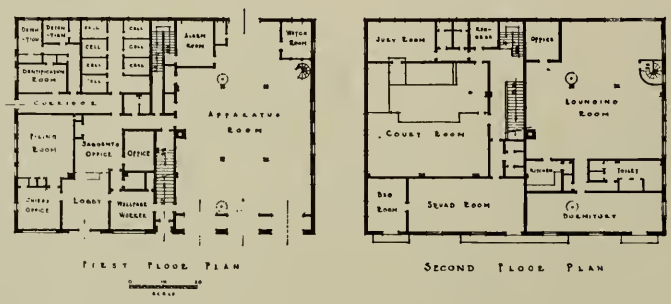


PLOT PLAN, MUTUAL STORES BUILDINGS, OAKLAND
REED AND CORLETT, ARCHITECTS

POLICE AND FIRE DEPARTMENT BUILDING, PALO ALTO

Birge N. Clark, Architect

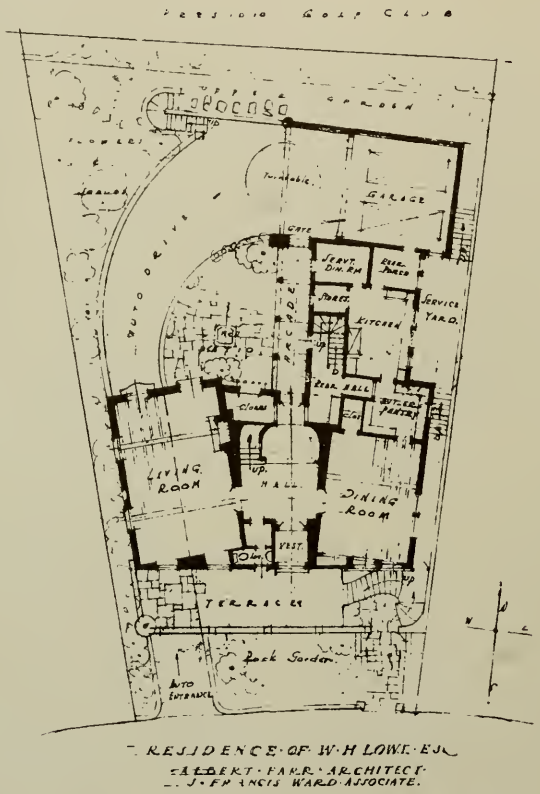
Photo by Crandall



PLAN, POLICE AND FIRE DEPARTMENT BUILDING, PALO ALTO
BIRGE N. CLARK, ARCHITECT

Photo by Johnson

HOUSE OF W. H. LOWE, SAN FRANCISCO, CALIFORNIA
ALBERT FARR, ARCHITECT; J. FRANCIS WARD, ASSOCIATE



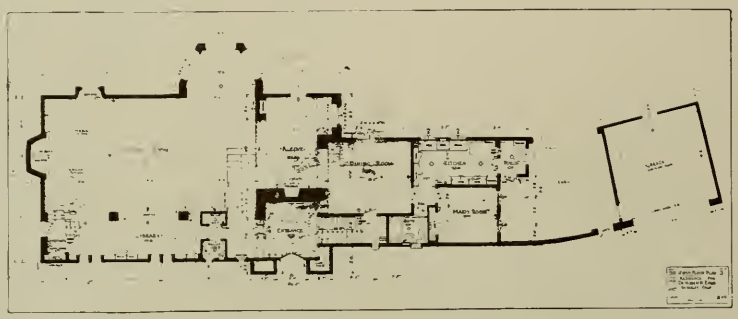
GROUND PLAN, HOUSE OF W. H. LOWE, SAN FRANCISCO
ALBERT FARR, ARCHITECT; J. FRANCIS WARD, ASSOCIATE

PATIO, HOUSE OF W. H. LOWE, SAN FRANCISCO, CALIFORNIA
ALBERT FARR, ARCHITECT; J. FRANCIS WARD, ASSOCIATE

Tile roof by N. Clark & Sons

HOUSE OF MR. AND MRS. RAY WILSON, PIEDMONT, CALIFORNIA
FREDERICK H. REIMERS, ARCHITECT

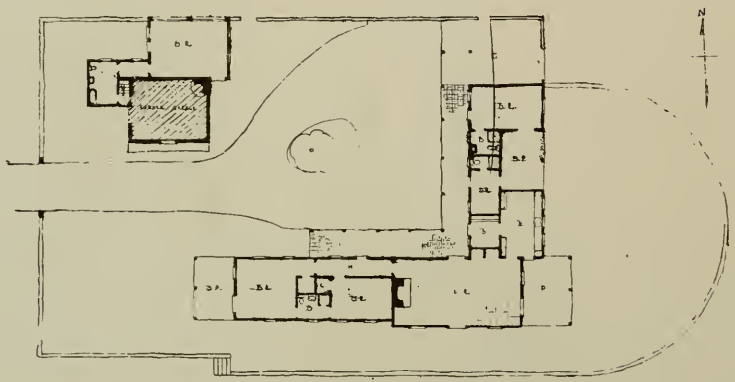
HOUSE OF DR. HERBERT M. EVANS, BERKELEY
HENRY H. GUTTERSON, ARCHITECT



FIRST FLOOR PLAN, HOUSE FOR DR. EVANS, BERKELEY
HENRY H. GUTTERSON, ARCHITECT

HOUSE OF DR. HERBERT M. EVANS, BERKELEY
HENRY H. GUTTERSON, ARCHITECT

FARM HOUSE FOR MRS. WARREN GREGORY, SANTA CRUZ COUNTY, CALIFORNIA
WILLIAM WILSON WURSTER, ARCHITECT



PLAN, FARM HOUSE FOR MRS. WARREN GREGORY, SANTA CRUZ COUNTY
WILLIAM WILSON WURSTER, ARCHITECT

FARM HOUSE FOR MRS. WARREN GREGORY, SANTA CRUZ COUNTY, CALIFORNIA
WILLIAM WILSON WURSTER, ARCHITECT

Photo by Sturtevant

BUILDING FOR WEAVER-WELLS COMPANY, OAKLAND, CALIFORNIA
CHAS. W. McCALL, ARCHITECT; ARTHUR D. JANSSEN, ASSOCIATE

BUILDING FOR WEAVER-WELLS COMPANY, OAKLAND, CALIFORNIA
CHAS. W. McCALL, ARCHITECT; ARTHUR D. JANSSEN, ASSOCIATE

AN AUTOMOBILE SALES BUILDING and GARAGE in OAKLAND, CALIFORNIA

SELLING transportation in the form of motor cars from an alluring sales room became one of the problems of Charles W. McCall, architect, and his associate when he received a commission to prepare studies for the 67,522 surface feet, Sales and Service Building for the Weaver Wells Company in Oakland, California.

To consider the problem in its entirety, the building is sub-divided into sales room with adjoining offices and to the east, a 118'x150' service department, still farther east a 118'x150' shop elevated 5'0" and a 118'x150' new car department under shop on street level. These three departments are completely isolated, one from the other, by structural steel, concrete and self-closing fire doors.

Careful study was given in the grouping of these departments in their relationship, one to another, to insure the utmost efficiency in rendering service with dispatch.

Of interest to the public is the character and color treatment of the show room and sales offices. This sales room, 104'x60'x39' high, is adapted from the early Italian. The ceiling is in two tones in fawn and old gold to reflect light.

All timbering and trusses are sandblasted, and dry glazed to accent the grain of the wood. The trusses and purlins are then enriched in a four color stencil. The walls are of Latin texture stucco in a pale apricot tone, over-glazed and stenciled in an over all design in a faint green and Grecian reds.

Of special interest on the east wall of the show room are three grilled openings on the east mezzanine level finished in a walnut tone with the mouldings enriched in old bronze. Care has been used in balancing the colors so the entire interior, including the specially designed fixtures, would become a harmonious unit. This unusual motor car setting is made complete with a specially made multi-colored matt glaze floor tile in siennas, soft greens, apricot and sienna-cream colored floor tile laid to a pattern with wide apricot colored joints to pick up the wall color.

The exterior is adapted from the Cuban Colonial, featuring, at the suggestion of the owners, a corner bay designed to frame, accent and flood light a Studebaker model on display on a motor driven turn table set immediately back of the glass.

Full advantage has been taken of this lofty sales room to construct show windows of unusual height, thereby securing in a most satisfactory manner a splendid top light for all cars within 60 feet of the show windows.

To the east and adjoining the sales room are the executive offices, closing rooms and general business office, finished in a walnut toned mahogany.

Another feature of interest to customers and owners is the pre-heated filtered air secured by a plenum ventilating system with automatic temperature control. This will insure an absolute dust proof show room where all the cars on display will be spotless, avoiding the daily dusting usually required.

To the east with the main entrance on 29th street, is the service department of most unusual height, natural light and ventilating, conveniently designed for the customer at sidewalk level. This area is completely trussed to avoid free standing columns.

The service superintendent's office is placed in a commanding position where he will be in peronal contact with all customers immediately entering the department also with adjoining shop foreman's office.

Again to the east, is the elevated shop, well lighted and ventilated, elevated 5 feet above the service department. This room is also trussed and free of columns. Under this shop and at the 29th street level is the new car storage and renovating departments.

Adjoining the show room on the Broadway frontage is situated the Used Car Department, directly connected by 40-ft. accordion doors with service department.

Associated with Charles McCall on the building was Arthur D. Janssen, Architect.

AMERICAN SKYSCRAPER MAY PROVE DOWNFALL OF PARIS

PARIS is going "American," architecturally speaking! In so doing, she is bringing about her own ruin, according to many leading French architects. Those who remember Mr. Lathrop's reference to Paris in his plea for height-limit restrictions, will be interested to note that all is not calm in that fair city as regards what and how to build.

* * *

M. Albert Guerard in his article "The Future of Paris" appearing in a recent *Atlantic Monthly*, declares that "the most immediate danger to the beauty and amenity of Paris is the skyscraper." Not that the French object to soaring buildings but they are a conservative people and they undoubtedly have sound reasons for their attitude.

* * *

It is all a matter of proportion. In old Paris, the proper scale is given by the river, by the trees, by the width of streets, by the historical monuments. In order to preserve that harmony a limit of five stories would be desirable, the traditional limit of seven stories is not disastrous, but if you go beyond, the result is immediately and strikingly horrible. All architects who know their Paris realize the truth of this. Imagine a skyscraper topping that delicate Obolisk in the Place de la Concorde or a 200 foot building by the side of Notre Dame! Obviously, historical Paris, as a whole, if it wishes to keep its charm and beauty, cannot afford to change its general scale.

* * *

But modern Paris—the Paris of Tomorrow—is another thing! Outside of the historical districts it should be possible for buildings to soar as high as their builders please. According to M. Guerard, many French architects are interested in the idea. One of them has "sketched vast towers on a cruciform plan, which would undoubtedly be comfortable as well as impressive." Another has built houses of a new and very attractive type. "With their receding terraces, these truncated pyramids seem to offer tier upon tier of bungalows clinging to an artificial hillside. A vast hollow space is left underneath, unfit for habitation, but suitable for warehouses or garages."

* * *

The French however (if "big business" does not run away with them), will never forget that a proper relation must be kept between the width of the thoroughfares and the height of the building. They hold that this rule must be maintained in order to secure light and air for all, in order to provide trees and wide vistas, and especially to avoid traffic congestion. Their reasons, one notices at once, are not so widely different from our own.

* * *

In concluding his article, M. Guerard has a few plain words to say of the conditions in America. "There is no large city in America today in which that proper relation (width of street to height of building) has been preserved. We have thoughtlessly piled up twenty towns on top of each other, along the lanes which once were adequate for New Amsterdam. Now we can escape from the consequences of our short-sightedness only by double and triple decking our streets. At the cost of billions we may secure in that way some kind of efficiency . . . There is yet time for Paris not to become such a nightmare Metropolis."—*The Lintel.*

NEW TRENDS in HOME DESIGN

By
James S. Taylor

I TAKE up the subject of new trends in home design with some trepidation, for probably what I have to say is already familiar to most of your readers. Any hope of my contributing something of value arises from the fact that members of the staff of the Division of Building and Housing of the Department of Commerce have visited some 38 cities during the past year in the course of a study of small house construction. These men have obtained records, among other things, on about 300 details of more than 200 typical small houses in as many sub-divisions, including such varied items as types of flooring and wall finish, the height to which foundations extend above the ground, and different methods used in paying for utilities and street improvements.

Our President, Mr. Hoover, as you all know, believes that home ownership is one of the vital problems in our nation today. You may recall his active personal leadership in the Better Homes in America movement, and that he set up the Division of Building and Housing when he became Secretary of Commerce in 1921, with the promotion of home ownership on a sound economic basis as one of its chief objectives. If we all agree with him on the importance of home ownership, then our subject is much broader than that of a problem affecting just a certain group of business men. That is because the design of homes has much to do with their economical construction, their usefulness, and the satisfaction they give to those who live in them, and the appeal they make to families who may build or buy.

Most people agree that present home design is improving steadily. Many forces are helping to keep us headed right. The biggest handicap is an old one that has its parallel in many other industries. Time and again real estate men—builders—have told us that it too often happens that a new house that sells easily is not the best one to buy or to live in. That situation is not easy to remedy, for the public has to be educated in order to make such advancement. We are doing well when we can see real progress in the space of five years. I could expand the theme that we have here one aspect of a problem as old as Adam and Eve. Men are lured, by what seems attractive, to make important decisions, and live to regret their choice when they bump into the hard reality of things as they are. We could draw an analogy from politics, where the complaint has been for 2500 years that the high sounding demagogue who promises much is too often elected to public office over his worthier and more able opponent. But it is enough for us to agree that many families would be better satisfied with their houses if they used more discrimination in picking out good ones, and did not "fall" for showy features.

It is easy to be overcritical of other people's tastes, and I do not want to decry, much less neglect, the fact that human beings do a lot of things for the sake of appearances. People of real character do go to great pains to maintain appearances and all of us have whims that we like to indulge. In order to build houses and to sell them in a competitive market, such human qualities have to be taken into account. The problem of quality confronts many other industries, and I think we may well be encouraged because the number of houses erected that are distinctly faulty in construction seems to have diminished considerably during the past six years.

Address before the Homebuilders' and Subdividers' Division, National Association of Real Estate Boards, Boston, Mass., June 26, 1929.

The situation presents all the elements of a drama. The characters include the operative or speculative builder; the architect, together with many smaller parts for others who design, or contribute to designing, houses; manufacturers of building materials and equipment that go into the house; and the homebuyers. These persons of the drama are all subject to the many currents of our modern world. I propose to keep the spotlight most of the time on the designers and the homebuyers.

* * *

I cannot hope to pose as an expert on detailed matters of style or sales appeal. I cannot tell you how the last $150 to be spent on a house to sell at $5950 might best be divided up among inlaid flooring, a fireplace that has no chimney, tile on the bathroom walls, a colored kitchen sink, an electric button that opens the back cellar door from the kitchen, hand forged hardware for the front door, and dozens of other items that are used in all sorts of combinations to help create individuality.

Getting down to the elements of design, we find that the designer is now more often able to start with a good setting for the house.

The automobile, besides permitting residences to spread out into suburban areas served by private cars and bus lines in locations and in a way that would not have been possible if we still had to depend on horses, and street and steam railways, has affected the size, shape and features of the lot and of the house.

The front porch, a more or less distinctive American institution, is rapidly going out of style. Fewer and fewer people care to watch endless streams of passing motor cars, and the rear of the house is coming more and more into its own. Alleys, which muster but few defenders, are becoming passe, although many of them have already been laid out in unbuilt territory and some cities still cling to them tenaciously. More attention is paid to the appearance of the backs of houses, and designers are called upon to provide for keeping such things as ash cans out of sight.

It is only during the past few years that the architect has had to consider the fact that practically every owner will want a place on his lot to house one or more motor cars. The built-in garage has worked its way down from the more expensive houses into the medium priced field. On streets where there is any considerable amount of automobile traffic, and where garages are built-in or attached to the houses, families naturally want to live more and more at the back of the house. A sun parlor at the rear has become fairly common, and the rear living room is no longer a curiosity.

In row houses the built-in basement garage seems to be a prerequisite in Philadelphia and San Francisco, but it was found in less than half the houses visited in Washington and Baltimore. Local customs or practices governing block and lot sizes, carried over from before the days of the automobile, seem to account for the difference.

Modern features that contribute to saving time and labor in housekeeping, and that make for health and comfort, have come to be demanded in most new houses, and absorb a considerable part of the cost of the house. This has created a pressure to cut down on the cubical contents, and has meant somewhat smaller room sizes, lower ceiling heights, and greater attention to economical arrangement of space. The process has its limits, and there are some evidences of a re-action. People themselves are no smaller; in fact, their average dimensions are increasing. Where they can afford more space without too much extra labor for housekeeping, they are glad to have it.

Some prophets foretold the passing of the dining room in the small house, arguing that, being used only two or three times a day, it was the most expensive space in the house. A good breakfast nook, and well planned arrangements for serving meals at one end of an enlarged living room, so they said, would suffice, but there is no proof yet that they were right. In our survey we found many small houses where a breakfast nook was added, but almost none where the dining room was omitted.

In the houses visited in our survey, kitchens were more nearly alike in size than any other room. Most of them contained about one hundred square feet, with the width about three-quarters of the length, so that 8 feet 10 inches by 11 feet 8 inches would be typical. Living rooms from 11 to 15 feet wide and 15 to 22 feet long, with the width commonly about two-thirds the length, were most frequent. I must ask you to remember that these figures are based on houses mostly of five or six rooms. They represent actual practice, which may or may not be the best, and variations are frequent. Dining rooms tend to be more nearly square, with about half again as large an area as the kitchens. Bedroom sizes run distinctly larger in two-story than in one-story houses. The owner's bedroom in many two-story houses is over the living room and of about the same size.

One important group of items depends on utilities, the roots of the house. In new subdivisions, gas and electricity are both common, but where there is only one it is more apt to be electricity. I need not go into the growing part which electricity is playing in the home. You all know of its use for lighting, electric irons, toasters, refrigerators, operation of vacuum cleaners and washing machines, and most recently for heating by means of large hot water storage tanks which consume current, provided at special rates, during the hours after midnight when other power requirements are at a minimum. All this involves more expensive wiring, and additional electric outlets, and leaves less of the owners' dollar for the structure of the house itself. Gas is very general for cooking and for heating hot water, is used for space heaters, and is being developed as a fuel for furnaces, and for refrigeration.

Sanitary water supplies are almost always provided, and, as you all know, the bathroom is one of the most conspicuous features of many new small houses. I recall one in a row house selling for less than six thousand dollars. Although small, it looked fit at least for a millionaire screen star, with its floor of black and white tile, buff colored tile wainscoting, special wallpaper showing sea scenes, and the built-in bathtub, with shower attachment, in a kind of alcove. The bathtub on legs is going out of style even in the lower priced new houses. The types replacing it have practical as well as aesthetic advantages, because they have no space underneath to be kept clean, and with the saving in floor covering the total cost of the bathroom may be only slightly greater. Of the houses covered in our survey, three fourths had tile floors in the bathroom, and about one half, tile wainscoting.

Real advance in the heating of houses has been made through organized efforts to study the problem scientifically and work out tables which make an inadequate installation well-nigh inexcusable. I need not go into detail in discussing types of heating apparatus and the competition of oil, gas, and electricity, with coal. Use of more expensive fuels creates a greater incentive to use adequate weatherstripping and heat insulation.

Types of floor covering have been in evolution ever since the passing of the old-fashioned carpet. Hardwood floors downstairs and a good grade of matched flooring upstairs are usual, with linoleum common in the kitchen. These types help to make dusting easy. Variations are frequent, and many of the competitive floorings strive for use in special parts of the house, such as tile in the entrance hallway.

One of the most important and recent trends to have a marked effect is the increasing vogue for color. This has a good and highly commendable side; but it also has its dangers. If a man paints his house or roof the wrong color, he can easily repaint them. Changing the color of certain materials, however, is impossible without actual replacement.

None of us can escape the greatly intensified competition between the manufacturers of building materials and equipment—a competition forcibly expressed in national advertising. Durability against rust and decay, protection against cracks and leaks, fire-resistive properties, sanitary qualities, heat insulation, appearance—all these and many other properties are constantly stressed in appeals to the public. In regard to this competition, Dr. Gries, former chief of my Division, stated:

Lumber is still the basic material for dwelling construction since it is prevailingly used for interior framework, floors, stairways, and exterior and interior trim, even in houses whose walls are built of other materials. At some points, however, there have been inroads upon lumber by other building materials.

Intense competition is evident in roofing, where composition strip shingles, which require but little labor for erection, compete with wood and other types. Copper, zinc, asbestos, slate, burnt clay, and cement tile all find some use on sloping roofs while roll and built-up composition materials compete with types of sheet metal for flat or low pitched surfaces. Copper and copper bearing steel vie with plain galvanized steel sheets for gutters and downspouts.

The walls and interior partitions of houses represent another field of rivalry. Under the weather surface, composition boards made from sugar cane refuse, or wood pulp and gypsum, compete with wood sheathing, and any of these may compete with common brick or hollow tile as a backing behind an outer course of brick. For interior wall surfacing, wood and metal lath with two or three coats of plaster have to compete with plasterboards to which one or two coats of plaster are applied. Some of the newer materials do not cost less in total, although they reduce labor costs on the job.

It is impossible to give a quantitative estimate of the number of houses built of different basic materials. Brick veneer has gained in many localities. In some places it has cut into straight frame construction, while in others it gains by displacing solid brick. This seems to be the case particularly in some Southern cities where brick walls were used without furring, and in which cases the brick veneer is preferred as giving less trouble from damp plaster.

The intergroup competition not only affects the demands of owners, but has resulted in research into the best methods of using the different materials such as lumber, brick, and cement. Hence, a better collection of information on the engineering side of construction is available to designers and builders.

As I stated earlier, most of the commercially built houses, at least in larger cities, include many of the modern improvements. The people for whom space is the first requisite apparently buy or rent old houses.

The lowest priced houses now being built in quantity in the larger cities today are of five and six rooms, with one-story construction apparently predominating for the five room, and two-story for the six room size. The six room, two-story house is favored more in eastern cities, whereas in cities of the Pacific Coast, the five-room bungalow is in the lead in the lowest priced group. In the latter cities, however, the two-story house usually has six rooms. The popularity of bungalows in the lowest priced class of detached dwellings seems to continue in spite of the arguments of those who maintain that a family gets more for its money in a two-story house than in a single story dwelling.

* * *

American domestic architecture is on the mend. The more expensive houses are usually designed by architects who specialize in that kind of work, and are acknowledged to be the best in the world. More operative builders appreciate the importance of good architectural service and employ architects on their staff or as consultants. By means of deed restrictions and other forms of control or influence, they obtain architectural harmony in neighborhoods.

The Architects' Small House Service Bureau, with its regional divisions, an offshot of the American Institute of Architects, has done a great deal to set higher standards in the small house field. Its work, together with that of material manufacturers and some of the commercial plan services, has interested more architects in the design of small houses, a specialty in itself, and this has all been encouraged by the wider publication and use of stock plans. Fine work has been done by various local groups such as the Community Arts Association in Santa Barbara, and the bodies which encourage adherence to historic traditions.

Particular styles come, and have their vogue, and give way to others, in the construction of new houses in various cities. English and psuedo-English houses, and steeper roof slopes than formerly, are now popular in many parts of the country, but many southern and western cities favor Spanish and Italian types.

Probably more small houses of good architecture are being put up now than for a century past. In a desire to please prospective owners, efforts to present something out of the ordinary have been directed more towards adaptations of historic and provin-

cial styles, than to the pure exercise of the imagination which produced the so-called gingerbread ornamentation and other features of our lamented architectural dark ages, which still cast their shadows among us.

The small builder's organization is likely to be weak on the matter of design. We asked a prominent sub-divider, whose developments are noted for their good appearance how he got around this. He pointed out that "Control of the color, general type of the house, and its height above the grade line of the property and its relation to the adjoining houses is almost as important as good design. The effect of the treatment of the kitchen door on adjoining properties; the effect of the height of side terrace and lawn on adjoining homes, and the effect of some particular design upon the already-established design of other houses in the block, all should be given consideration. We have had considerable difficulty in the hideous combinations of colors and particularly roof colors of various types of manufactured materials. There are a lot of fundamental things such as trying to group together homes of fairly comparative costs, keeping bungalows out of two-story house districts and two-story houses out of bungalow districts, which all has an effect on the general appearance of the neighborhood. Also even if the houses are well designed there are always certain types that are more adaptable to certain topography than other types. Also frontages of houses on corner lots may seriously injure adjoining houses. We always try on corner lots to require the house to present a good front on both streets and give particular consideration to the effect of any design or arrangement of the house as to entrances, kitchen door, garage doors, etc., on the surrounding lots or houses.

"I think the main difficulty in small houses, a prominent developer of residence tracts, said to me, "is due to the fact that builders do not employ an architect but simply build from their own plans or from sketches prepared by their boss carpenters, We have greatly improved the situation by encouraging the use of architects and have been able as a rule to show builders in our district that a good architect will not increase their cost but will get a better looking house, frequently eliminating unnecessary ornamentation, depending more on good lines. In some instances with such builders we had to volunteer them architectural services with their first few houses in order to convince them of this. We retain the approval of the plans of all houses, large or small, and really go to considerable expense, having our own architectural department check these plans and make suggestions. I realize that such a method is not very practical for developers of subdivisions who do not have their own architectural staff. Many of these subdividers would probably not want to go to the expense of having an architect pass on them. The whole matter is largely an educational one."

Other outstanding subdividers use the same method, or employ outside architects to pass upon all plans for homes in their subdivisions. In other places architectural juries are set up. In some cases, the men on them are merely residents whose architectural judgment is not likely to be of high calibre, and in others there is sometimes complaint that the suggestions of the architects who are members are too costly to carry out. The whole situation is gradually working toward a point where more and more architects are becoming qualified to render consulting architectural service in connection with small houses, whether as full time members of a staff, or on a free basis.

When the public becomes somewhat better educated, it may even transpire that such fees will more than pay for themselves in reduced selling expenses.

I have hardly time to cover the engineering side of design—the comparatively little attention devoted to it and the handicaps imposed.

Many local codes, for example, prevent use of economical types of brick walls. The plumbing codes more often than not prevent using three-inch plumbing soil pipe, which is fully as sanitary as the four-inch. In Philadelphia, the designer of a row

house on a shallow lot may be called upon to make an overhanging pantry on the first floor and an overhanging bedroom on the second floor, so as to leave enough backyard space to satisfy the building code. What chance has he to make it look well?

The designer's knowledge of structural details may be of no avail on the job. Bridging of floor joists may be omitted during construction, or partly removed by men in the subcontracting grades, or not be finally nailed up at both ends. Corner bracing is another advisable feature that is often omitted.

Finally, certain elements of house design are but little understood. We may take ventilation, for example. We can hardly escape reading medical opinions on the value of raisins, yeast, spinach, cigarettes and sweets, or artful descriptions of the value of beds, springs and mattresses that assure healthful slumber. But discussions of the value of a quiet, well ventilated home are conspicuously absent in the popular prints. May we look forward to the day when physicians' views on the value of these items are given currency? If it be the mode of the moment, why for that matter should not psychotherapists' views on the value of the owned home be sought and published? Countless families have had it impressed on them by arguments that a refrigerator should maintain a temperature of about 45 degrees rather than 55 degrees, yet how many as "prospects" ask if on a June evening the temperature in a house will be 72, as it could be if the house were properly insulated and ventilated, when it may actually show 82 degrees, a temperature, which, with the stuffiness likely to go with it, makes a comfortable sleep impossible for many persons? There are bedrooms where you can't sleep much after sun-up on a summer morning because the sun striking the side of the house makes it like a hot house. I have yet to learn of temperatures being taken in living rooms and bedrooms in the summer time in differently constructed houses in the same neighborhood to find out what some of the variations are, and how houses may be kept cooler in the summer. Few people seem aware that, besides heat insulation, orientation, room proportions, and types, sizes and placement of windows are all important.

What does a family want of a house? Usually it wants to have it comfortable, clean and attractive to live in, and at least presentable as to looks, both inside and out. There never has been a perfect house, even where the owner's funds were unlimited and in choosing a house the owner has to do the best he can in the way of obtaining desirable features and avoiding undesirable ones. In order to do well, he ought to be well educated and he ought to exercise calm, dispassionate judgment. There is no doubt that most Americans are better judges of motor cars than of houses. If they bought motor cars the same way they do houses, we would find them selecting cars on the basis of their upholstery, without taking a ride in them, or inquiring about their gas consumption, or asking the man who owns one.

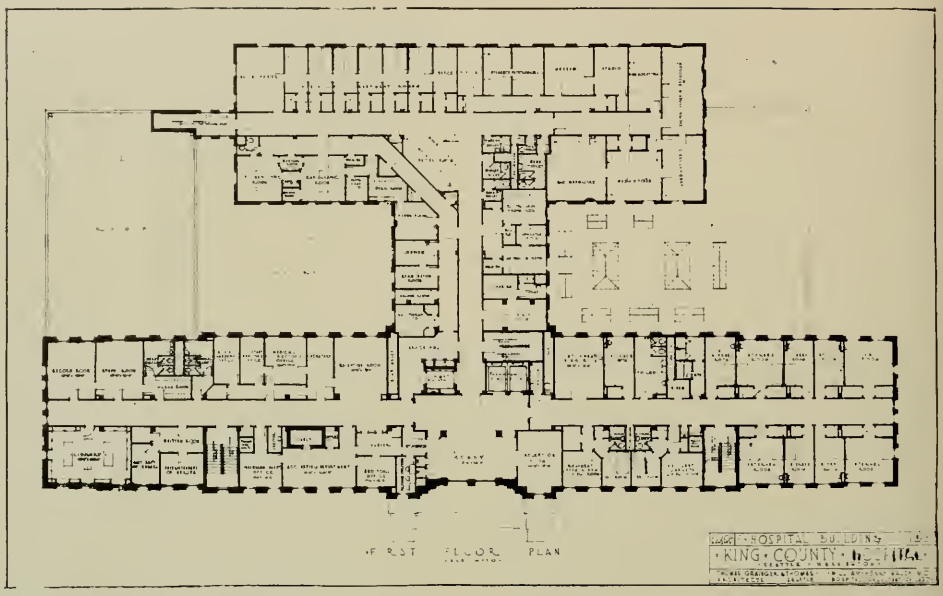
Notwithstanding that, the American people have become much better informed during the past few years as to the points of a good house. There has been a tremendous increase in home building periodicals and some of the home building pages of the facturers of many items that enter into a home and its equipment have done a splendid job in conveying essential facts. But the fact remains that a large proportion of home buyers are full of prejudices and half baked ideas of what they want. Some, to be sure, are careless or indifferent and do not make a systematic effort to size up the relative merits and demerits of different houses.

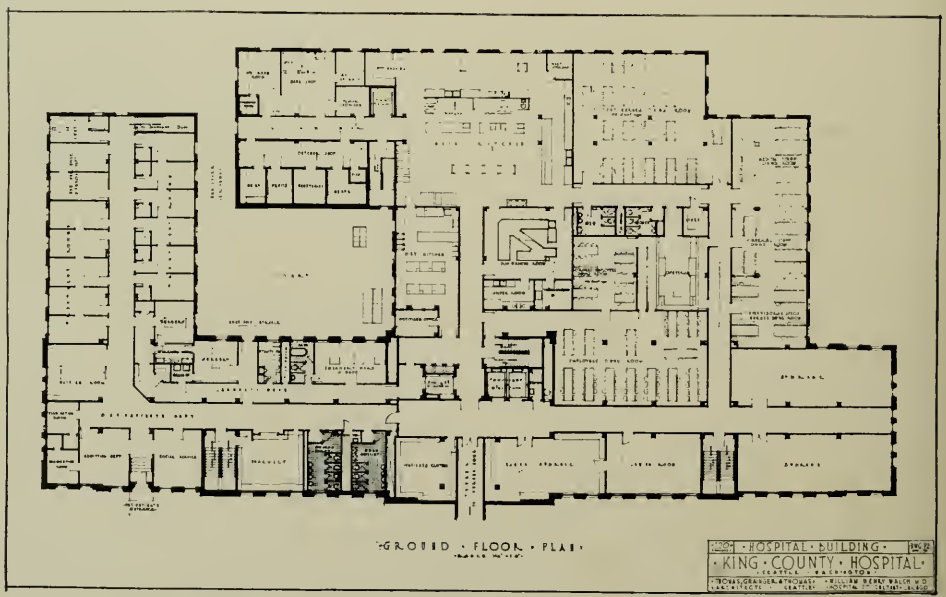
For a large proportion of families, buying a home is such a momentous step that it becomes a distinctly emotional experience, and a good many of them, when they are in need of having some one at hand with the "hose of common sense" to play on their fiery enthusiasm, choose the particular house they do because of some one, two or three features that especially attract them. It is no wonder, then, that the showy house often wins out over its neighbor which is really designed and built to wear well, in every sense of the term, including appearance and general attractiveness.

With the operative builders giving the designers more recognition in their organizations, what is being done to educate the public demand so that it will recognize good design with well balanced use of the funds available for building? As I have said there are a great many forces moving in the right direction. The influence of the home building periodicals and of the real estate pages of the newspapers is, on the whole, good. Education through the schools and through the more than 5,000 annual Better Homes in America programs on a 100 per cent educational basis is showing home owners how they can make their expenditures on their homes go the farthest. Such efforts are doing a lot, and can be promoted by men in the real estate field. Individual builders or groups of builders could consider putting more stress on the basis elements of a good house in their advertising, and prospective home owners can be urged to seek the advice of competent men such as architects, independent building contractors, and the officials of home financing agencies, before committing themselves to a purchase. There may be a place for specially created organizations to act as unbiased information centers.

If the American people could be induced within five years to spend one per cent more of their total annual income of $90,000,000,000 for rent, or its equivalent say from 20 per cent in 1929, if that is what they now spend, to 21 per cent five years hence in 1934, it would mean that they would pay out about $900,000,000 more each year for their dwelling accomodations than would otherwise be the case. If you capitalize that on the assumption that the value of the home is only seven times the annual expense to the occupant of the home, it would add six billion, three million dollars worth of dwelling property during the five year period. Deducting the cost of land, that would add roughly $5,000,000,000, or $1,000,000,000 a year to the country's residential building program for the next five years. For a prosperous city of a hundred thousand population that would mean an addition of a million dollars a year to its home building program—the equivalent of say a a hundred and thirty odd houses valued at about seventy-five hundred dollars each. That would, as I have said, follow if you could get the people in that city to raise their expenditures for rent or its equivalent by an amount equal to one-fifth of one per cent of their incomes each year for a five year period.

Housing conditions in the United States are improving, and it is the speculative, or operative builders who are putting up houses and selling them who can make the best case before the man from Missouri.





PLANS, KING COUNTY HOSPITAL, SEATTLE, WASHINGTON
THOMAS, GRAINGER AND THOMAS, ARCHITECTS

THE NEW KINGS COUNTY HOSPITAL

SEATTLE, WASH.

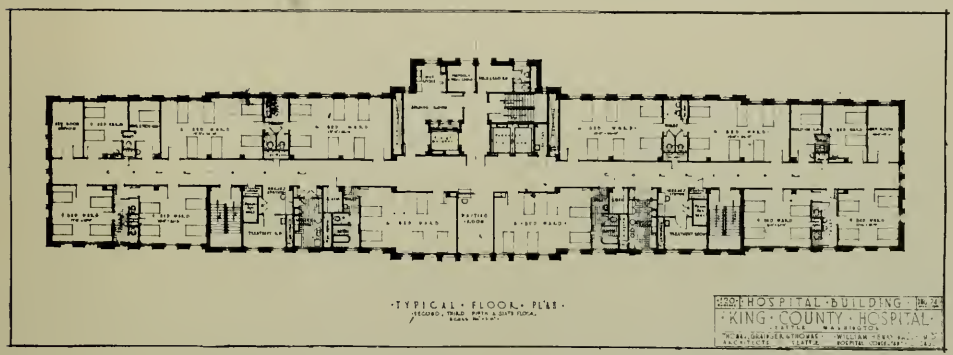
SOME interesting models and plans are shown herewith of the proposed new King County hospital to be constructed in Seattle, Washington, from plans by Thomas, Grainger and Thomas, architects, and William H. Walsh, hospital consultant. The various buildings are to be erected under the requirements of the building ordinances of Seattle and will be of the Class A type with reinforced concrete walls, faced with light colored brick or stone, the exterior treatment being in the modern vertical type of architectural design.

The initial unit will provide for three hundred and fifty beds. Eventually these accommodations will be increased to from seven hundred and fifty to one thousand beds, according to the needs of the city and county. The first unit will also include a Nurses' Home for two hundred nurses and a heating plant for the entire institution.

The site of the hospital occupies an imposing position on a hill overlooking the city of Seattle and Puget Sound. It covers an area of more than 215,000 square feet.

The basement floor contemplates extensive parking facilities underneath the main structure of the hospital for automobiles of visiting physicians and such other cars as may be permitted in this space. On the same floor practically all supplies of the hospital will be received and separate unloading platforms will be provided for the unloading of stores. At another entrance on this floor is located a complete morgue with autopsy room. Provisions are also made for quarters for some of the help of the hospital, with locker rooms, sitting rooms and toilet facilities, storage space for linen, refrigerator, ice machine, fire-proof storage room for X-ray films, etc.

The floor above, which is known as the ground floor, contains in the center of the building the kitchen, bake shop, butcher shop, cold storage for various kinds of food, a specially constructed dish-washing room



TYPICAL PLAN, KING COUNTY HOSPITAL, SEATTLE, WASHINGTON
Thomas, Grainger and Thomas, Architects

which is sound-proof; the diet kitchens for the preparation of special diets; the dietician's office; a cafeteria and dining rooms for student nurses, supervising nurses, the staff and colored help.

On the southeastern wing of this floor is located the Out-patient Department of the hospital, provided with a separate entrance

tion clerk are located immediately on the left of the entrance.

The southeastern wing is assigned to administration offices, including the information clerk, the cashier's office off the auditor's office, the general accounting department, with special vault for valuables and closet for supplies, the purchasing agent's

MODEL OF KING COUNTY HOSPITAL GROUP, SEATTLE, WASHINGTON
Thomas, Grainger and Thomas, Architects

on the northeast sidt. This department consists of a general admission room, offices for social service, special consultation rooms and examination rooms for all of the various specialties of medicine and surgery, including dentistry. Closely articulated with this department, but provided with a separate entrance is the Casualty Department, consisting of an emergency ward with all of its necessary facilities. The general pharmacy of the hospital is also located on this floor.

Upon entering the hospital into the main lobby, the switch board and the informa-

office, and a reception room from which one enters the office of the secretary to the medical director, whose office is next joined by the assistant medical director's office and the housekeeper's office. At the further end of this wing is located the staff room with lockers and lavatory adjoining, the clinical record room, the library and a suite of rooms as offices and waiting room for the superintendent of nurses and the assistant superintendent of nurses.

Directly opposite the lobby as one enters the hospital and on the southwestern wing, we enter the hall leading to the x-ray de-

partment, the electro-cardiographic room, the metabolism room, the general laboratories of the hospital and the physical therapy department. This whole wing is articulated with the Out-patient Department already described as located on the ground floor and connected with a bridge and stairway.

The eighth floor is reserved exclusively for maternity, infant's and women's medical cases.

The ninth, or top floor, of the main building is so designed as to provide a large solarium at each end fitted with vita glass for the admission of the ultra violet ray. The remaining area of the roof is reserved for play grounds.

MODEL OF KING COUNTY HOSPITAL, SEATTLE, WASHINGTON
Thomas, Grainger and Thomas, Architects

The northwestern wing of the hospital, with the exception of a receiving room immediately on the right, is assigned as living quarters for the resident physicians and internes, provision being made for 18 of these members of the junior staff.

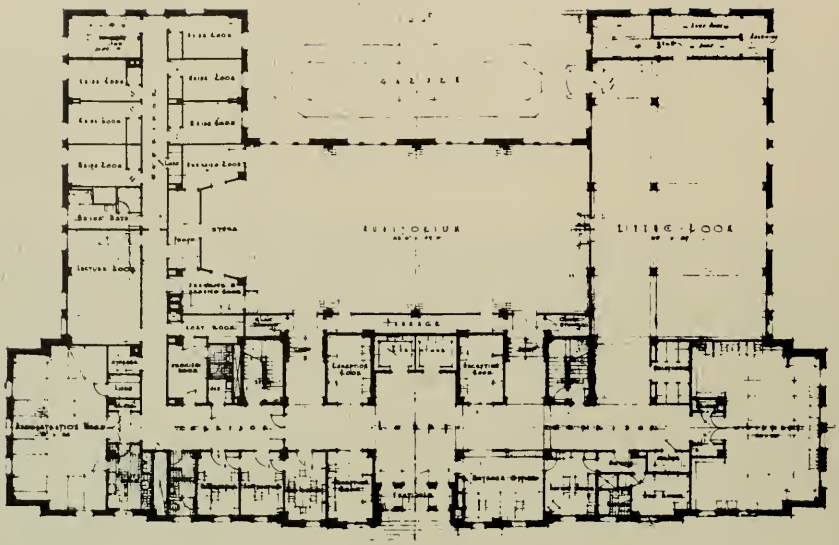
The second, third, fifth and sixth floors are all similar and are specially arranged for care of various types of medical and surgical cases. Each floor provides complete facilities for the proper care of 58 patients, divided into various classifications.

The seventh floor has been set aside for surgery and obstetrics.

Provision has been made in the hospital for a silent signal system by means of which any physician who enters and registers may be paged by the use of a luminous number visible in all parts of the hospital at the same time.

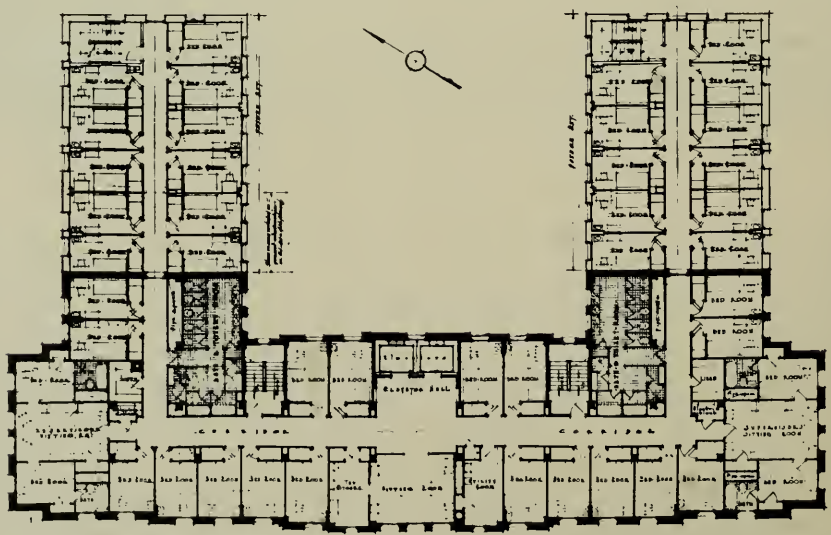
On every floor there will be placed telephones which will be intercommunicating so far as the hospital is concerned and upon connection with the switchboard may be used as outside telephones. The switchboard operator controls all outside calls.

A nurses signal system is provided whereby upon the pressing of a button at the bed

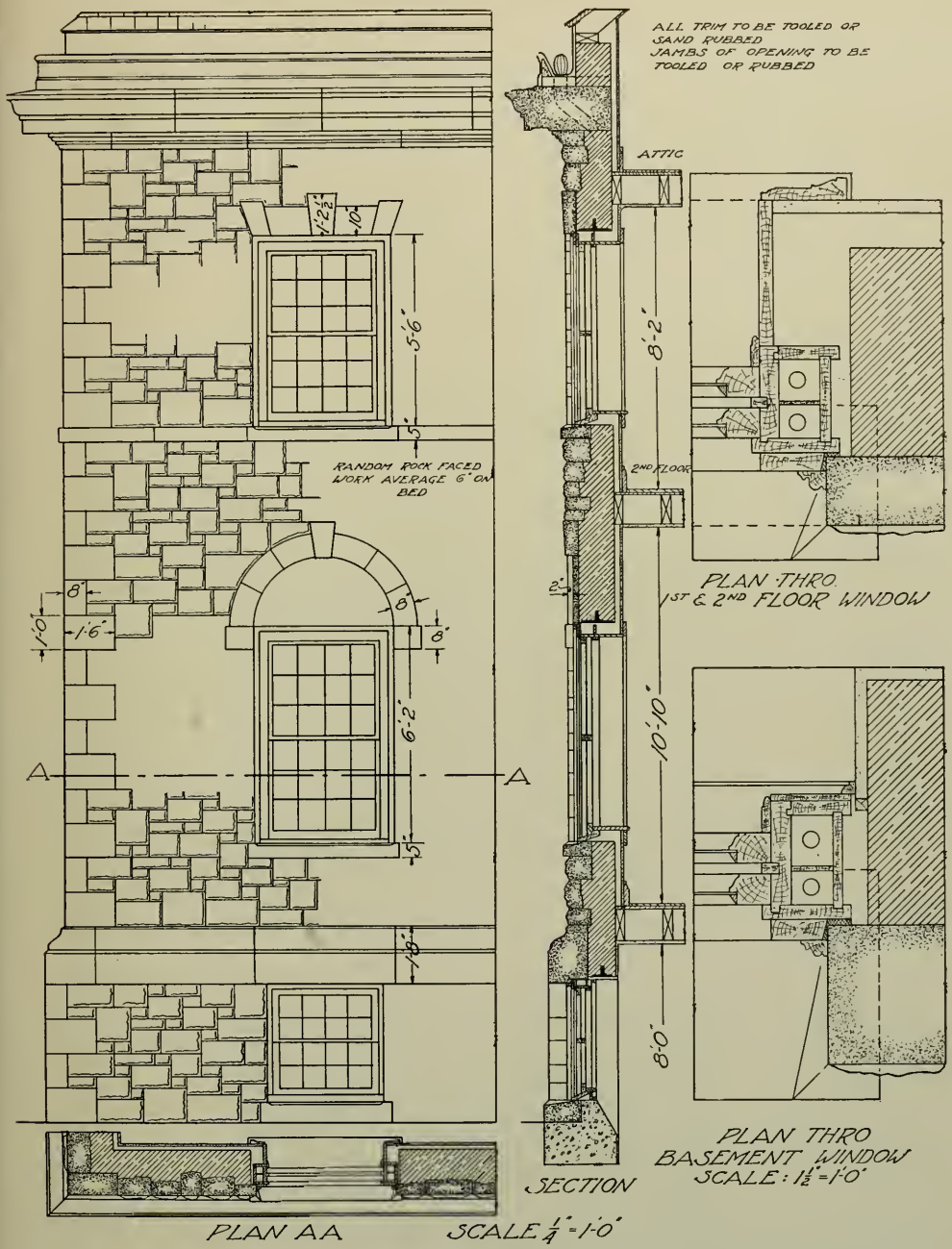


of any patient in the institution a luminous signal is shown at the nurse's desk and remains visible until the call has been answered. Throughout the main corridor are special luminous directional signs so that special rooms, exits, stairways, etc., may be properly designated.

The whole unit will be wired for radio receptacles so that if desired a central station may be installed and head phones plugged.



MAIN FLOOR AND TYPICAL PLAN, NURSES' HOME, KING COUNTY HOSPITAL, SEATTLE


EXTERIOR TRIM AND ROCK FACED WORK
ALL TRIM TO BE TOOLED OR SAND RUBBED
JAMBS OF OPENING TO BE TOOLED OR RUBBED
ATTIC
2ND FLOOR
RANDOM ROCK FACED WORK AVERAGE 6" ON BED
PLAN THRO 1ST & 2ND FLOOR WINDOW
PLAN THRO BASEMENT WINDOW
SCALE: 1½"=1'0"
SECTION
PLAN AA
SCALE ¼"=1'0"

DETAILS, MARBLE EXTERIOR, MAIN OFFICE BUILDING, VERMONT MARBLE CO., PROCTOR, VERMONT

R. CLIPSTON STURGIS, ARCHITECT

MY EUROPEAN IMPRESSIONS

By C.O. Clausen, Architect

XVIII—ST. PETER'S CHURCH, ROME

THE first glimpse of this church is disappointing. It is in no way beautiful and I feel quite assured that any true artist will agree with me in this respect.

The astounding feature of this edifice is its enormity and it is so bulky that one loses all sense of proportion. The height of the dome from the pavement to the top is four hundred and five feet, being twice as high as the capitol dome at Washington. A mosaic frieze around the interior of the dome picturing Christ and his apostles appears at a glance to be life size, but as a matter of fact, Saint Luke is writing with a pen six feet long.

The church contains hundreds of statues and has forty-six immense altars. Viewed from the gallery within the dome, some two hundred and forty feet above the floor of the church, the people look like bands of ants as they parade from shrine to shrine, genuflecting as they go.

To the devout, St. Peter's church is like the Mecca of the Mohamedans. It has been the pilgrim's shrine for ages. Near the entrance is an immense bronze statue of St. Peter (originally a statue of Jupiter, but revamped). St. Peter's right foot is almost entirely worn away by the continuous kisses of his devotees. The osculating still goes on and you will most always see a long line of votaries awaiting their turn for this peculiar deference.

In the center of the church, over the supposed bones of Saint Peter, is a huge, ill proportioned canopy called the "Baldachino," which was made of copper metal ruthlessly ripped off the beautiful old Roman Pantheon. Mark Twain describes it thus: "It only looked like a considerably magnified bedstead—nothing more."

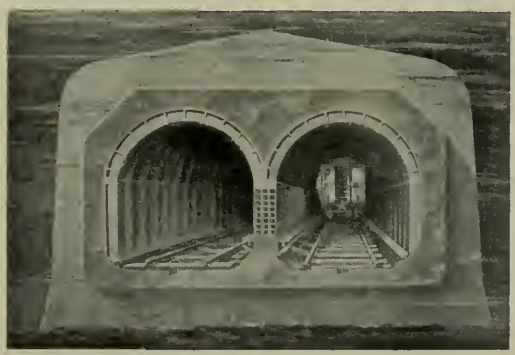
The Vatican, which adjoins the church, contains the most valuable collection of art and statuary in the world. Here are preserved many of the finest statues of antiquity and some of the grandest Renaissance paintings. Among the most famous statuary here I admired the Laocoon group, Apollo Belvedere and the Sleeping Ariadne. The large collection of marble busts of Roman Emperors and other ancient Roman notables were most interesting to me and it was astounding to note how the the pilgrim's shrine for ages. Near the encharacter lines of these old personalities resembled many of the modern men of affairs. The same expressions compared with those of today; stern, meditating, calculating, shrewd psysiognomies like the great American magnates, bankers and barons of Wall Street.

SAINT PETER'S CHURCH, ROME

ENGINEERING

and

CONSTRUCTION



SECTION SHOWING DOUBLE TRACK TUBE TO BE SUNK INTO PLACE AT BOTTOM OF BAY OR RAISED ABOVE THE BOTTOM ON PIERS

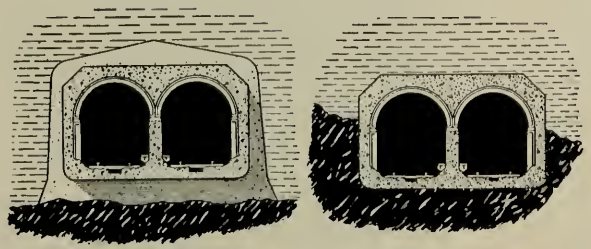
Featuring

A Concrete Tube Under San Francisco Bay

By F. W. Fitzpatrick

NOTE—The War Department has decreed against building a tube under San Francisco Bay on the ground that it would interfere with the Navy's plans in case of war. Engineers have declared, however, that the next war will be fought in the air, hence objection to the tube may be overruled.

MR. FITZPATRICK'S PLANS CALL FOR A SERIES OF LIGHT-HOUSE LIKE VENT-TOWERS PROJECTING OUT OF THE WATER TO AID IN VENTILATION



TUBES WOULD BE BUILT IN SECTIONS ASHORE, TOWED TO SITE AND SUNK INTO POSITION ON THE PIERS, AFTER THE SAME MANNER AS THE SECTIONS TO THE OAKLAND-ALAMEDA TUBE

A SUBAQUEOUS BRIDGE or CONCRETE TUBE for SAN FRANCISCO BAY

By: F. W. Fitzpatrick, Consulting Architect

SAN FRANCISCO has been talking about better transportation across the Bay to Oakland, Berkeley and Alameda for a dozen years. Yet her people are still traveling in ferry boats—the same antiquated methods of a half century ago. Ernest Lee Jahncke, Assistant Secretary of the Navy, is quoted as saying that "the natural development of two great cities like San Francisco and Oakland, having a combined population of more than 1,500,000, cannot very well permit the continued wearing of a transportation ball and chain. The conditions demand a bridge."

Whether this bridge shall be overhead or beneath the Bay are questions that need early solution. It has been said that a bridge or tube under the Bay would be impractical. But there are many who contend to the contray. One of these opponents is F. W. Fitzpatrick, an inventor and consulting architect, who, as far back as 1919—ten years ago, advocated a concrete tube and wrote of his plans in the Popular Science Monthly, THE ARCHITECT AND ENGINEER *and other publications. Some of Mr. Fitzpatrick's ideas are here reiterated with supplementary plans which the reader will undoubtedly find extremely interesting.—Editor.*

DIVESTED of all technical details and terms, my "subaqueous bridge" crossing consists merely in lowering a previously built tube into place, either right on the bottom of the waterway or raised above the bottom on piers. It is the simplest, the most effective, the most cheaply maintained and least expensive water crossing that I know of.

My plans are for a concrete tube, made in sections ashore, (like the sections were built to the Alameda tube). Those about three hundred feet long are the more easily handled. They are square, large enough for a double track, provision being made for drain and ventilating pipes, electric wires, etc. Each section has a temporary bulkhead at the ends and is launched as you would a ship, and towed to the point where it is to be sunk in a trench previously dredged or on piers built in place.

PICTURE SHOWS PROCESS CARRIED OUT IN BUILDING A PORTION OF THE NEW YORK SUBWAY THAT GOES UNDER THE HARLEM RIVER

To sink the tube section the bulkheads are knocked out. The water fills the tube, and it sinks, direct-

ed by divers, into its proper place. The ends are fastened to the other sections. Another and another section is lowered. When all are in place the water is pumped out, the connections perfected, tracks laid, ventilation, and drainage installed.

Your "subaqueous bridge" is complete and ready for operation—the cheapest and best water crossing ever devised, one not subject to winds and storms like a bridge, nor disturbed by currents or tides, nor painfully bored underground. If the traffic becomes too great for two tracks, another double-track tube is laid alongside the first, and another and another later on, as needed. Thus the "subaqueous bridge" can develop without in any way disturbing the first tube or its traffic.

The joints in these tubes are so devised that when the two sections are butted together the easing into exact location is automatic. Tighten one line of bolts and the juncture is as solid and water-tight as any part of the structure.

At the ends of the tunnel or subaqueous bridge the approaches lead through open cuts or troughs exactly as one would expect for the regular bored tunnel under a waterway bottom.

Years ago definite plans and estimates were made for four such crossings—railway, street-car, and street traffic—near the Cortlandt street ferry line into New York.

The tube idea was at first opposed by engineers. Now it is regarded as fundamentally correct. It was thus that the New York subway was built under the Harlem river.

At a conference of railroad men before whom I was advocating this tube crossing for a certain river in Illinois some years ago, the chief engineer of one of our greatest systems was loud in his opposition. Finally, as a clincher, he suggested that the piers necessary to *support* the tube would have to be wonderfully strong, and that the load in the tube would be so great as to produce a sag in the middle of each section. It was only after much bantering on the part of his colleagues, and the illustration of trying to keep a closed glass tube down in a glass of water, that it dawned upon his expert mind that the piers were not for support, but for anchorage. The really troublesome problem would be to keep the tube down in place and prevent it from *floating* up off its anchor piers.

To my mind the scheme is ideal for the crossing from San Francisco to Oakland, where in the seven miles of water there is no greater depth than seventy-five feet.

For years there has been talk of a bridge, then of a tunnel across the Bay. It is generally recognized that something must be done to relieve the railroad isolation that now grips San Francisco and handicaps its terminal railroad business and commercial life between the Trans-Bay cities.

Just now there is a revived movement for better transportation facilities across the Bay. That some sort of a bridge, be it above water or below, is sorely needed is generally admitted. Not to cast any reflection upon San Francisco's enterprise, it is safe to say that with the same problems facing the people of Los Angeles, they would have had the bay bridged or tunneled years ago.

ARCHITECTS DEVELOP AIRPORT TERMINAL, LOS ANGELES

THE new terminal for the Western Air Express at Los Angeles is one of the first airports on the Pacific Coast being built with a comprehensive plan, developed by an architectural firm, providing for present requirements and allowing ample provision for future development. A definite program for the development of this field was given the architects and this somewhat simplified the problem. Messrs. A. M. Edelman and A. C. Zimmerman, the associated architects on this work, were fortunate in having as a consultant, C. C. Cole, superintendent of operations for the Western Air Express.

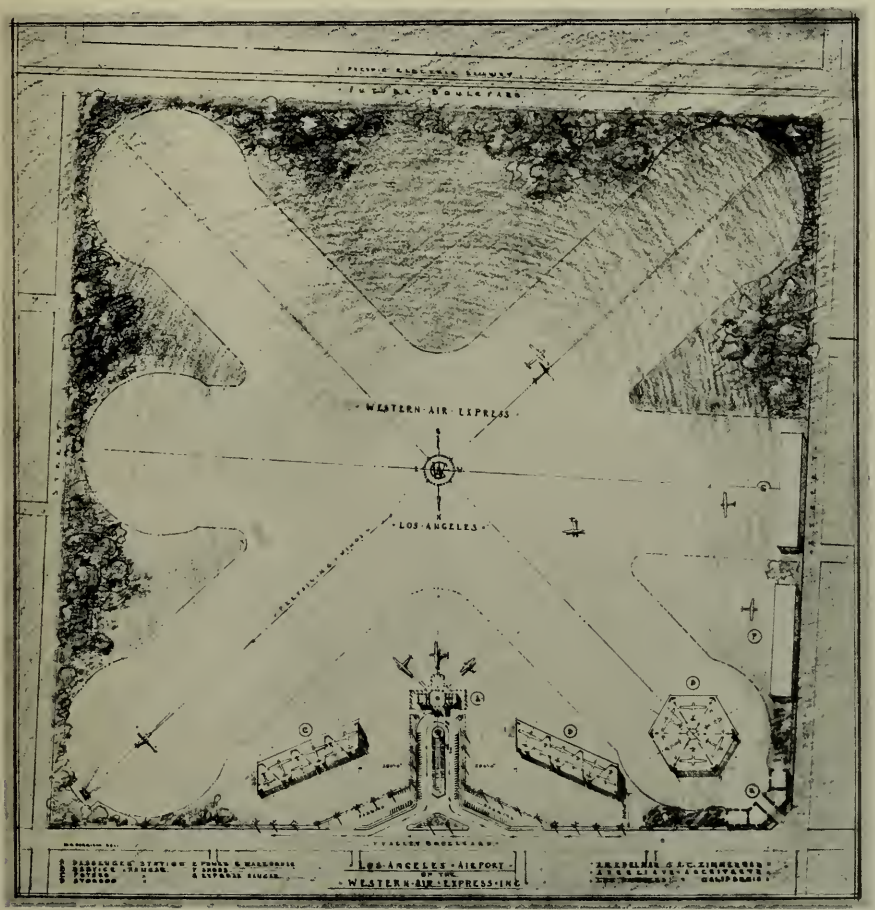
The field covers 155 acres and is located on Valley Boulevard, east of Alhambra, California. It is approximately square. There are three landing strips, each 500 feet wide, two of which have an effective length of 3000 feet.

At the present time there are under construction two hangars and a passenger station. One of the hangars, hexagon in form, is used for the servicing of the planes. This

building was developed by the architects from the original idea of W. Y. Eaves of the Eaves Construction Company, the patentee, and was designed to accommodate six planes having 100 feet wing spread, or eighteen planes having eighty feet wing spread. A stock room, mechanic's work space, lavatories and locker room are in the center of the building, over which is a mezzanine floor having an office and an observation bridge for the chief mechanic from which he can control the work being done on the various planes. Each side of the hexagon has a bank of doors 123 feet wide and electrically operated. In case of fire the chief mechanic, by throwing a master switch, can open all six sets of doors, allowing the planes to be removed from the building in a minimum of time.

The other hangar, being built at this time, is for the storage of planes after they have been serviced. This building consists of a series of triangles put together in a different form from that of the hexagon. The theory of both buildings is that a triangle

[Concluded on Page 107]



PLOT PLAN FOR LOS ANGELES AIRPORT, LOS ANGELES, CALIFORNIA
A. R. Edelman and A. C. Zimmerman, Associate Architects

The ARCHITECT'S VIEWPOINT

¶ *The Confusion of Ideals*
¶ *The A. I. A. and the Small House Problem*
¶ *Advertising and Free Sketches*

CONTRIBUTING EDITORS
WILLIAM C. HAYS . . *San Francisco*
CARLETON M. WINSLOW . *Los Angeles*
HAROLD W. DOTY . . . *Portland, Ore.*
CHARLES H. ALDEN . . *Seattle, Wash.*

ONE of our monthly magazines announced some years ago that it "suffered no confusion of ideals" and by consistently adhering to this policy acquired distinguished literary and financial success. Another magazine with high aspirations and worth while backing, but with conflicting policy, recently ended its career at a financial loss, a victim of confusion of ideals.

Is not the profession of architecture suffering from a confusion of ideals when it attacks the small house architectural problem? The editorial "we" conducting this presentation of the Architect's Viewpoint is responsible for introducing this subject in a previous issue when the question was propounded, "The Small House—Is It Architecture?" One of its successors has given some interesting side lights on the aesthetic angle and your contributor of last month deplores the present day attempt at a solution of the problem and the endorsement extended by the American Institute of Architects.

The ready made plan service, which is now before us as a solution of the architectural problem of the small house, is a popular ground for attack by members of the profession. It is said there are too many small house competitions, attention is called to the loss of character when designs are produced in other environments, and the encouragement given by the American Institute of Architects to the ready made plan movement is considered "detrimental to the work and ideals of its own members." An Architects' League protests against this interference with the architect's legitimate function and the attitude of this League gives a popular magazine reason for offering for discussion such a question as "Isn't it better to have each residential problem, even though it be only a six room house, planned and built under competent supervision?"

The present writer of these columns still believes that the small house *is* architecture, and that it is incumbent on the architectural profession to initiate or support *some* method of giving it architectural consideration to meet modern conditions. We do not believe there are too many small house competitions when conducted in the interest of good architectural design and we believe the American Institute of Architects, in endorsing small house plan movements, is acting in consistent accord with its ideals and we don't think the question of whether it "isn't better to have a house designed by an architect" is worth a re-statement—of course it is better—so are custom made clothes better than the ready made production but many of us who have to use the stock product still remain reasonably comfortable and happy!

In the words of an historic President "It is a condition and not a theory that confronts us"—There are millions of worth while Americans scattered throughout the country who want their own homes. Can all of these, or any considerable proportion, be expected to have houses especially designed for them by competent architects? We all know they cannot.—What chance is there that a man in an isolated village will get a competent architect to design and supervise the construction of his modest $3,500 home? None whatever. Competent architects do not exist in isolated villages and in the modern condi-

tions of architectural practice the prospective home builder cannot employ an architect in a distant city. The owner would not approach an architect with such a problem and the architect could not afford to undertake the work at any reasonable figure.

* * *

THE American Institute of Architects gives in the preamble to its Constitution a clear statement of its objects with no conflict of ideals. Its endeavor is to make the profession of architecture "of ever increasing service to Society." With the profession unable to reach the small home problem under modern conditions, earnest consideration was given by the Institute and its members to see how this situation could be met. It remained for a group of its members in Minnesota to definitely work out a solution. This was the Architects' Small House Service Bureau, producing complete stock plans made by architects, national in its scope, with publicity and sales provided for in a business like manner. It was to be a non-profit enterprise, thus avoiding confusion of ideals.

The enterprise was thoroughly considered by the Institute through its Board of Directors and the Convention of 1921 and enthusiastically supported. The Bureau was to be a separate organization endorsed and controlled by the Institute and it also received the endorsement of Secretary of Commerce, now President Hoover, a professional engineer who pledged the cooperation of his department of the Government.

What a Utopia it would be if each of us could have individual expert professional service to take care of each individual problem. If we could all be constantly advised how to regain or maintain our health on every occasion with the advisor properly compensated for his professional service; if everyone could have competent legal advice to protect him from any legal pitfall and give sound advice on practical affairs. Doctors would then not be called upon to render free service and it would not be necessary for us to be bewildered with irresponsible advice in the transaction of our affairs. Then every one who builds could have an individual architect to care for all angles of his problem and there would be no need of any building plan service. Until that time comes the professional architect and his organization must recognize some responsibility towards providing effective means for the small home owner to get some measure of architectural service. If it cannot be furnished by individual architects on the professional basis they desire to maintain, how better can it be done than by properly supervised and professionally controlled ready made plan services?

* * *

ANOTHER example of confusion and failure to wholly appreciate modern conditions is found in the attitude of the profession towards advertising and free sketches. It is easy to say it is unprofessional to advertise but every architect who is worthy of the name owes it to himself and the public to get his qualification and desire to serve before the building public. He can do this by personal contacts, by cooperating with architectural magazines in publishing worth while material in their advertising, or, he can resort to direct advertising himself which apart from any violation of ethical rules may lower him to the level of the unqualified practitioner who takes advantage of this easy commercial means of publicity.

Free sketches have probably done more than anything else to undermine and retard a proper recognition of the architectural profession with the attempts to get work by a superficial cleverness in pictorial representation. While a professional man should make himself known and must contribute gratitously of his peculiar abilities to the public benefit, he needs to be governed by a clear vision without confusion of ideals in meeting the conditions that confront him.

CHARLES H. ALDEN, F. A. I. A.
Seattle, Wash.

EDITORIAL CHAT

AS stated in these columns last month modernism is to have its inning at the next convention of the American Institute of Architects. There will, of course, be a diversity of opinion on the subject. I was interested in Carleton Winslow's analogy of it.

"After all," says Mr. Winslow, "the question is one of epidermis and interior lining only, for the true principles of design are principles of construction and these principles do not and will not change so long as the laws of gravity obtain.

"The expression of architectural design in the past has always been full of meaning to him who takes the time to read. If modernism, so called, has anything to say, and maybe we, of the present generation are too obtuse to understand it, our culture will be judged by it by future generations.

"It is not a thing to worry much about, for possibly by next year the billboard designers will have invented a new scheme of lettering and *Vogue* will have turned to other channels for cover designs. So far as all a r t is concerned, 'it is the spirit rather than the precise form which is of supreme importance.' If modernism is spiritual, it will make its lasting record, and if it is not, it will fall by the wayside."

* * *

THE San Francisco public is growing very weary of the seeming indifference of those responsible for the progress, or rather lack of progress, that is being made in building the new Opera House and Legion Hall in the Civic Center. The first of the year we were all enthused over the prospects of an early beginning of construction work on these buildings. Contracts were awarded for the excavating and for a month or two it looked as if things were going to move in earnest. The year is now more than half over and all we have to show for that spasmodic beginning is a big hole in the ground.

There is something radically wrong somewhere. The call for bids on actual construction has been postponed so many times that it has become a joke with the contractors. The public knows that it is not a question of money. Bonds have been authorized and liberal donations have been made. The trouble seems to be that the committee connected with the Legion building cannot agree with the Architectural Board and vice versa. And so the work is held up and we are getting nowhere. It has been suggested that a Board of Inquiry b e appointed with the idea of bringing the opposing factions together and fixing a definite course of procedure that will put a stop to the present bickering and squabbling.

* * *

JAMES S. TAYLOR'S paper on "New Trends in Home Design," which appears in part in this number, is well worth reading. The author has prepared one of the most complete reviews of the home building situation that I have seen published in recent years. He bases his information on data and research work that has been gathered with apparent thoroughness by the Division of Building and Housing, United States Department of Commerce, in 38 cities spread over a territory from coast to coast. He presents information that gives one a splendid perspective of present day home building conditions. He makes a strong appeal for architectural design in preference to contractor design and goes on to tell why a well planned home is the best bet for the investor in the final analysis. Read Mr. Taylor's paper.

* * *

CHAS H. CHENEY, recently named by the American Institute of Architects, as chairman of the Committee on City, Community and Regional Planning, in a recent interview, said that it is up to our architects to educate the public to be "planning minded" and "architecture minded." Mr. Cheney is one of the country's ablest city planners and he knows what he is talking about. To quote him further:

"There is an almost universal lack of understanding of the importance of architecture and its inseparable setting, landscape architecture, which together form the background or environment for all the

people of this country, particuarly where they are grouped together in cities.

"Over 500 cities are now reported by the Department of Commerce to have city planning commissions. Yet, with the exception of St. Louis and a very few other cities, there are seldom architects on these commissions and if there are they do not seem to know what to do.

"Scarcely any real esthetic considerations have been included in American city planning to date. Meanwhile there is enormous economic loss everywhere because of the bad design and planning of both individual and group buildings and of off-color structures which must be scrapped and replaced in a few years.

"It is time to place in the hands of these planning commissions or others responsible for city improvement plans, a definite, constructive program for improving architecture in the mass."

AIRPORT TERMINAL IN LOS ANGELES

[Continued from Page 103]

is one of the smallest areas in which an aeroplane may be housed. Patents for this type of building are pending.

The passenger station is of modern design and planned for future expansion. The ground floor is devoted to public space and includes a restaurant with seating capacity of 150, a ticket office, a telegraph and telephone office, space for concessions, a baggage and express room and other public accomodations. On the second floor are the field offices of the company, on the third floor is the radio department and on the fourth floor is located a field control tower.

To the rear of the passenger station and connected to it is a concourse which provides for the simultaneous loading or unloading of five transport planes of 100 feet wing spread. All planes taxi in or out of position under their own power and any plane may enter or leave the concourse without interfering with the loading or unloading of the other planes. This feature is one which the transport companies have long felt the need of, for under present conditions most airports can load or unload one plane at a time. The limitations of the present system are obvious and are one of the causes of a great deal of time being lost by passengers at the terminals. Patents have been applied for on this feature.

WE'RE PLEASED OTHERS ARE PLEASED

The following letter from Elmer Grey, architect, of Los Angeles, is self explanatory:

Dear Mr. Jones:

I have thought that you might be interested in knowing that I have received a number of flattering comments on the Pasadena Playhouse article. Because that means that they liked what appeared in your magazine and what you considered good as editorial censor.

Here is one from Myron Hunt my former partner:

"I have just blown into the office for an hour today and so this letter probably won't be signed by me personally, but it carries just as sincere congratulations as though I had signed it. I am very glad at last to see this thing published with full credit where it belongs."

Here are two others:—"I have read with great interest your extremely interesting article in THE ARCHITECT AND ENGINEER, etc."

" I have just had the pleasure of reading "The Romance of the Pasadena Community Playhouse" in THE ARCHITECT AND ENGINEER of June, 1929. It was exceedingly interesting from start to finish, and I am going to further the pleasure that I have had in reading it by showing it to my friends who are interested in the Community Playhouse."

EXHIBITIONS FOR SEPTEMBER

During the month of September two unusual special exhibitions will be in progress in the exhibition rooms of the Architects Building, Fifth and Figueroa streets, Los Angeles. One will be the work of Roland E. Coate, architect, and the other by John S. Keshishyan, rug dealer.

Mr. Coate plans to display renderings and photographs of his most recent work, some of which are the residences of Messrs. R. B. Fudger, Los Angeles; Herbert Allen, Jr., Pasadena; Francis Baer, Pasadena; Lionel Armstrong, Arcadia; and John Barber, Pasadena. Mr. Coate is partially responsible for the adaptation of a true California type of architecture. He has been successful in blending Colonial and Georgian with Mexican and Spanish architecture and producing an Early California or Monterey type.

During the last two weeks of September Mr. John S. Keshishyan will give an exhibition of rugs.

WITH the ARCHITECTS

ARCHITECTURAL EXHIBITIONS

The ever increasing interest in the "one man" architectural exhibition in the Architects Building, Fifth and Figueroa streets, Los Angeles, is proof of the fact that the people of California are back of the struggle for a truly California type of architecture.

The two "one man" architectural exhibitions for the month of August were those of Paul R. Williams, residence architect, and Robert Lockwood, architectural renderer.

The Williams exhibition included a fine collection of his most recent work such as renderings and photographs of homes of English, Mediterranean and early California types adaptable to Southern California.

The Lockwood exhibit included some of his most recent renderings for well known architects. His renderings are outstanding for their color harmony, perspective and fine details.

Many unusual "one man" exhibitions are planned for the future months as far ahead as November.

SCULPTURE EXHIBITION TO CONTINUE

The Board of Trustees of the California Palace of the Legion of Honor in San Francisco, have announced that the All-American Exhibition of Contemporary Sculpture, which has occupied the Palace since April 27th, will continue until the first of the year. The policy of making no admission charge will also be continued.

The attendance figures from the records of Director Cornelia B. Sage Quinton, show that a total of over 510,000 visitors had seen the Exhibition in the first two months ending June 26th.

ARCHITECT FILES ATTACHMENT

Endeavoring to collect $5760, architect's fees, for a set of hotel plans said to have been ordered by Stephen Carusa, H. C. Baumann, architect, of San Francisco, has filed an attachment against Stephen and Vincent Carusa of Pittsburg, California. Carusa denies that the sum claimed by Baumann is due him and asserts that the attachment was asked in an effort to prevent him from building his proposed hotel in Pittsburg.

$200,000 OROVILLE HOTEL

Plans have been completed for a $200,000 Spanish type hotel in Oroville. G. A. Applegarth, Claus Spreckels Building, San Francisco, is the architect.

WILLIS LOWE BUSY

Plans are being prepared by Willis Lowe, Builders Exchange Building, Oakland, for a six-story and basement reinforced concrete apartment house in Palo Alto for Alfred Kroll of Oakland. It will cost $192,000. Mr. Lowe is also preparing plans for a Colonial type residence in Hillsborough for Mrs. Duncan Davis of San Mateo.

PRINTING PLANT

Henry H. Meyers, Kohl Building, San Francisco, has completed plans for a four-story reinforced concrete printing plant at First and Tehama streets, San Francisco, for the Phillips Van Orden Printing Company. Charles T. Phillips, 550 Montgomery street, San Francisco, is consulting engineer.

STEEL FRAME APARTMENTS

Segregated figures have been taken by Edward G. Bolles, with offices in the Monadnock Building, San Francisco, for two five-story steel frame Class C apartment houses to be built on Pacific avenue, near Fillmore street, San Francisco, for Cahen & Rosenberg. They will cost $100,000 each.

NEW BROKERAGE OFFICES

Messrs. Kent & Haas, architects of San Francisco, have let two contracts for fitting up stock and brokerage offices, one to the McGuire Cabinet Company of Los Angeles for Sutro & Company in that city, and the other to the Home Manufacturing Company of San Francisco, for Anderson & Fox in Seattle.

RESIDENCE ADDITIONS

Bakewell & Weihe, architects, 251 Kearny street, San Francisco, are preparing plans for alterations and additions to the Walter H. Sullivan residence at Clay and Spruce streets, San Francisco. George Wagner, Inc., is the general contractor.

OAKLAND APARTMENT HOUSE

A. Reinhold Denke, with offices in the Dalziel Building, Oakland, has completed plans for a three-story frame and stucco apartment house for Chris Riewerts to be erected on Hawthorne street, Oakland.

SPANISH HOUSE

Contracts have been let for a Spanish type residence for J. A. Logan, from plans by Masten & Hurd, architects with offices in the Shreve building, San Francisco.

ARCHITECTS' DIRECTORY

Cornell T. Malone has recently published a Directory of Southern California architects. It seems to be quite complete and accurate. The southern district is divided into sections thus enabling the user of the Directory to locate an architect without any great difficulty. The Directory gives in addition to the name, address and telephone number of the architect, the office personnel, class of work specialized, hours set aside for material men and other information. The publisher's address is the Chamber of Commerce Arcade, Los Angeles, and 741 Pacific Building, San Francisco.

CERTIFICATE TO PRACTICE

The following applicants were granted certificates to practice architecture by the California State Board of Architecture, Southern District, at a meeting held June 28: Prof. Arthur C. Weatherhead, 3969 S. Flower street, Los Angeles; Peter B. Ehlers, 3110 Walton Avenue, Los Angeles; Edwin B. Clark, 1278 N. Highland Avenue, Los Angeles; George Leslie Rapp, 1614 E. 56th Street, Chicago, Ill.

ARCHITECT AWARDS CONTRACTS

Albert F. Roller, Crocker-First National Bank building, San Francisco, has awarded a contract to Spivock & Spivock, for the erection of a two-story and basement English type apartment house to cost $40,000.

Barrett & Hilp have also been awarded a contract by Mr. Roller for alterations to the Mills building for the Aetna Life Insurance Company.

OAKLAND APARTMENTS AND HOTEL

Clay N. Burrell, of Oakland, is preparing plans for a three-story frame and stucco apartment house to be built on Telegraph Avenue, Oakland, at a cost of $45,000; also a $250,000 hotel in the down town section of Oakland.

DIVINITY SCHOOL

Working drawings are being prepared by W. H. Ratcliff, Jr., of Berkeley, for the first unit of the Divinity School of the Pacific, Berkeley. The unit is expected to cost $50,000 and will be erected on Le Conte Avenue, near Euclid.

LOS GATOS CHURCH

The First Church of Christ Scientist, Los Gatos, is having plans prepared by Wm. H. Crim, Jr., architect of San Francisco, for a new church. The style will he Colonial.

PERSONALS

Robert H. Ainsworth and Richard W. Ware, structural engineers, have moved their office from 214 Braley Building, to 710 Central Building, Pasadena.

Lloyd Rally has moved his offices from 1104 to Suite 579-581 in the Subway Terminal Building, Los Angeles.

J. Martyn Haenke has opened offices at 328 and 329 I. W. Hellman Building, Los Angeles.

Messrs. Miller and Warnecke announce the removal of their offices from 1404 Franklin street, Oakland, to 1700 Financial Center Building, 14th and Franklin streets, Oakland.

W. R. Yelland, architect, has moved to the new Financial Center Building, Oakland.

Harry J. Devine, architect, announces the removal of his office to Suite 1416 California State Life Building, Sacramento.

Architect W. Asa Hudson has moved his office from 1813 Santa Monica Boulevard, Beverly Hills, to 1328 Santa Monica Boulevard, Beverly Hills.

Architect Paul J. Duncan announces the removal of his offices from the Pacific National Bank Bldg. to larger quarters at 662 N. Robertson Boulevard.

Fred H. Tibbets of San Francisco will be appointed consulting engineer on the Calaveras dam, according to announcement by City Manager Walter B. Hogan of Stockton. Mr. Tibbets is now supervising the construction of a dam in Alaska.

Arnold A. Weitzman, architect, has moved from 1017 Hibernian Bldg. to 8963 Santa Monica Boulevard, Hollywood.

George K. Hooper has been appointed city engineer of Pasadena to succeed Warren C. Earle.

Verner B. McClurg, architect, has moved from 5212 Wilshire Boulevard to 754 S. Citrus Avenue, Los Angeles.

SANDBLAST FOR HOME INTERIOR

A residence for Mr. and Mrs. Roy M. Scott is under construction in Mt. Davidson Manor, San Francisco, from plans by the owner. One of the unique features is the use of sand blast for interior finish.

DRAFTSMAN WISHES POSITION

Young man trained in architectural drafting desires position with future. Phone Architect and Engineer, DOuglas 1828.

RULING ON NEW ARCHITECTS' LAW

In reply to a request from A. M. Edelman, secretary-treasurer of the California State Board of Architecture, Attorney General U. S. Webb has given an opinion that the revised law governing the practice of architecture in California, will prohibit persons advertising themselves as an "Architect Uncertificated." Following is the text of the Attorney General's letter:

Hon. A. M. Edelman, Secretary-Treasurer,
California State Board of Architecture,
Southern District,
Los Angeles, Calif.

Dear Sir:

In your letter of July 8, 1929, our attention is directed to opinion No. 5985 rendered on Architecture, construing the "State Act Regulating the Practice of Architecture in California."

In the opinion heretofore rendered we held that an unlicensed person who advertises as "Architect, Uncertificated," was not violating the provisions of said act. Since the rendition of this opinion, however, the state legislature has amended the act in question (Statutes 1929, Chapter 68), and you now request a ruling upon the legality of one practicing architecture without a certificate who advertises as "Architect Uncertificated."

Under the 1929 amendment it is provided that:

"It shall be unlawful . . . for any person to practice architecture in the state without a certificate, as herein provided, or to advertise or put out any sign or card or other device which might indicate to the public that he is an architect or that he is qualified to engage in the practice of architecture.

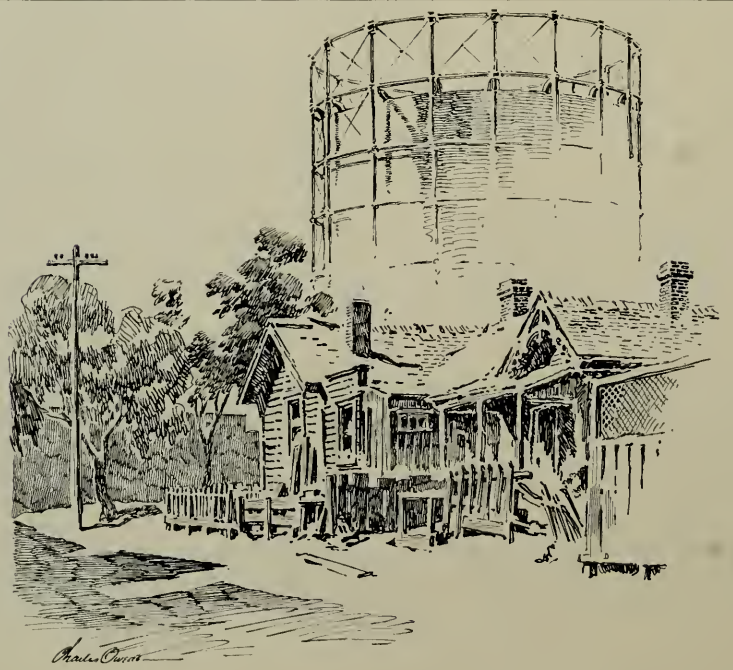
"Nothing in this act shall prevent any person from making plans or drawings for his own buildings or from furnishing to other persons plans, drawings, specifications, instruments of service, or other data for buildings, if, prior to accepting employment or commencing work on such plans, drawings, specifications, instruments of service or other data, the person so furnishing such plans, drawings, specifications, instruments of service, or data, shall have fully informed such other person or persons, in writing, that he, the person proposing to furnish such plans, drawings, specifications, instruments of service, or data, is not an architect . . . "

It will thus be observed that under the 1929 amendment it is unlawful for any person without a certificate to advertise that he is an architect or that he is qualified to engage in the practice of architecture. Furthermore, by the 1929 amendment it is necessary that a person without a certificate give written notice that he is not an "architect," whereas the previous law only required such person to inform the person for whom the plans were furnished that he was not a "certificated architect."

It is, therefore, the opinion of this office that the act as amended in 1929 is violated by uncertificated persons who advertise themselves as an "Architect Uncertificated."

Very truly yours,

U. S. Webb, Attorney General.



Pen Sketch, East Side, Los Angeles, by Charles Owens, L. A. A. C.

HOLLYWOOD LEAGUE SEEKING CONSTRUCTION COST DATA

(*Official*)

TABULATED data covering unit costs of construction of all types of building, is now in process of compilation by the Architects League of Hollywood.

This work is being undertaken primarily for the benefit of the architectural profession and for engineers and builders in general, with the hope that it will prove to be a valuable and useful addition to the Architects and Builders Handbooks.

Conditions in the building world immediately following the war were such that unit costs of one day were obsolete the next. We, however, have recently reached a period where a more or less uniform level of costs prevails and, aside from seasonal fluctuations which can be predetermined and allowed for, unit costs are now sufficiently stabilized to be more or less dependable.

The success of the cost data tables will depend largely upon the cooperation of the individual members of the architectural profession, and it is to be hoped that each and every architect will assist the work by filling out the blanks which are being sent out, and thus make it possible for this compiled data to be more comprehensive and accurate than anything of its kind now available.

The Architects League of Hollywood in launching this project expects to have the endorsement and the cooperation of every organization of architects in California, so that once launched its scope may be broadened and its accuracy and value kept up to date.

COST DATA COMMITTEE

Nathan L. Coleman, Chairman.
Verner McClurg,
Chas. Kyson,
Vincent Palmer,
Horatio Bishop.

INSTRUCTION SHEET

The following instructions should be observed by architects when computing their cost data to be sent in to the League:

SQUARE FOOT AREA. Compute and total all floor areas. Give separate figures for basements and detached outbuildings. Use ½ of area of covered porches, loggias, etc. Omit areas not roofed over.

CUBE FOOTAGE. Compute cubical contents from grade level to mean roof height. Use ½ of covered porches, loggias, etc. Omit areas not roofed over.

INFORMATION. Fill in sufficient information to enable the committee to readily classify the building.

QUALITY "X". To include only such buildings as have nothing but the very finest of materials, finish and equipment, or in the construction of which the unit cost has been materially affected by the use of unusual materials, processes, equipment, etc.

"GOOD". This classification is intended to include buildings of medium average type using more or less standard materials and equipment.

"FAIR". This classification to include all buildings wherein inexpensive materials, labor or equipment has resulted in lower than average unit cost.

METHOD OF CONTRACT. List as:—Contract, cost plus, day labor or segregated contracts.

COST. Architects fee is not to be included. Contractors fee is to be included in all cases. Job costs which do not show a contractor's fee, such as segregated contract jobs, should have an item of 10% added so that all costs are estimated on the same basis. Deduct all items of cost which are excessive on account of unusual conditions, such as excessive cost of foundation due to deep fill or quicksands. "Corrected Total Cost" should in all cases represent as nearly as possible the cost of the particular building under average conditions.

DO IT NOW. The value of the tabulated data which will be given to you as soon as the committee has completed its work will depend entirely upon the quantity and quality of the data which you send in.

Mail data sheets to Architects League of Hollywood % Nathan L. Coleman, 1558 N. Vine street, Holloywood, California.

Architects League of Hollywood
6040 Hollywood Boulevard
Hollywood, Calif.

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CONSTRUCTION COST DATA

Please fill out as complete as possible and return to
ARCHITECTS LEAGUE AT HOLLYWOOD
c/o Nathan L. Coleman, 1558 N. Vine St., Hollywood, Calif.

(See Instruction Sheet)
1—Building (Type-Purpose).....Date Completed.....
2—Bldg. Dept. Classification.....(Check).....| A | B | C | D |
3—Number of Stories.....Basement.....| YES | NO |
4—General Type of Construction.....
(Frame, Brick-veneer, Hollow Tile, etc.)
5—Quality: ("X", Unusually High Class) | X | GOOD | FAIR |
6—Metbod of Contract (See Instruction Sbeet).....
7—Roof Material.....Floors.....Interior Partitions.....
8—Remarks .....
.....
9—Job located in what city?.....
10—

BUILDING	Sq. Foot Area	Cube Footage
Main Building.....		
Basement		
Outbuildings		

11—Total Cost .....$.....

Add.	Deduct

$.....

12—Corrected Total Cost $.....
Architect's name..... All information will be treated
(not necessary) as strictly confidential.

SOCIETY and CLUB MEETINGS

LOS ANGELES ARCHITECTS MEETING

There was a fine turn out of architects at the mass meeting in the Los Angeles Chamber of Commerce July 22 when the new Architects State Registration Act, outlined by Mr. Evers in the July ARCHITECT AND ENGINEER, came in for discussion and elucidation. The meeting was sponsored by the State Board of Architects, Southern District, and brought together members of the State Association of California Architects, Southern Section; Southern California, San Diego and Santa Barbara Chapters of the American Institute of Architects; Los Angeles, Pasadena, Long Beach and San Diego Architectural Clubs; the Architects' League of Hollywood, and Beverly Hills Certified Architects.

A. M. Edelman, executive chairman of the State Association, was temporary chairman, and John C. Austin, president of the State Board, Southern Section, was the chairman of the evening. Features of the program were a review by Myron Hunt, director of the Ninth District, American Institute of Architects, and director of the State Association of California Architects, of the revised law governing the practice of architecture passed at the late session of the Legislature, and which became effective August 14th; a statement regarding the work of the committee engaged in drafting a state building code, by Edwin Bergstrom; a synopsis of the contractors' registration bill, also passed at the late session of the Legislature, by Melville Dozier, Jr., manager of Southern California Chapter, Associated General Contractors, and expressions forecasting cooperation of architects, engineers and contractors in the general uplift of conditions in the building industry.

Mr. Hunt's resume of the new law was supplemented by some remarks by S. Bernard Wager, legal counsel for the state board, who said there were some questions regarding the interpretation of the new act which would probably have to be determined in the court. One of these related to the status of firms including architects in their organizations.

Edwin Bergstrom spoke briefly of the work of the state building code committee sponsored and financed by the California Development Association. Such a code was highly desirable, he said, that architects might know under what regulations they are working in different cities. Ultimately there would be a state building code, but for the present this was not contemplated. He forecast the day when all building would be done by licensed architects and engineers, licensed contractors and licensed inspectors. David J. Witmer is the chairman of the state building code committee.

Richard C. Farrell, member of the professional betterment committee of the State Association of California Architects, told of the work which that committee is planning, to arouse in the public mind a better appreciation of architectural services. He said the committee proposed to secure the best speakers from among the architects to appear before civic organizations, women's clubs and other societies to explain the benefits to the building owner of good architectural service.

Other speakers included Pierpont Davis, president of Southern California Chapter, A. I. A.; Roy Selden Price, Beverly Hills Certificated Architects; Ralph Flewellyn, president of Architects' League of Hollywood; George P. Hale, president of Los Angeles Architectural Club; J. S. Siebert, president of San Diego Chapter, A. I. A., and San Diego Architects' Association; Russell Ray of Santa Barbara Chapter, A. I. A.

NEW ARCHITECTS' CHAPTER

Santa Barbara Chapter, American Institute of Architects, has been organized with Russell Ray president; Winsor Soule, vice-president; Frederick Murphy, secretary, and George Washington Smith treasurer. The territory of the Chapter includes Santa Barbara and Ventura counties. Members of the Chapter include Leonard Cooke, Henry Howell, Floyd Brewster, William A. Edwards and Keith Lockard of Santa Barbara, and Lewis Crawford of Santa Maria, H. Burkett of Ventura, and Roy Wilson of Santa Paula.

The charter members include Russell Ray, George Washington Smith, John Frederick Murphy, Winsor Soule and T. Mitchell Hastings.

Southern California Chapter and national representatives at the meeting included Edwin Bergstrom, national treasurer of the American Institute of Architects; Myron Hunt, regional director; Pierpont Davis, president of the Los Angeles chapter; David Witmer, former president of the Los Angeles group, and William Richards of Los Angeles.

JOINT ARCHITECTS' MEETING

About 200 members and ladies attended the joint meeting of the Los Angeles Architectural Club and Pasadena Architectural Club in the Masonic Temple, 200 Euclid Avenue, Pasadena, on the evening of July 16th.

Robert Stanton, president of the Pasadena club presided, introducing Henry William Greene, as toastmaster. Mr. Greene, who is art director for Warner Bros., stated that good architecture is of prime importance to the success of motion pictures, and that the architect is largely influential in the development of more beautiful and more architecturally correct motion picture sets.

Music and entertainment were furnished by the Union Oil Company and the Los Angeles Architectural trio, composed of President George P. Hales, Harold Schugart and Ted Johns. Roy J. Regnier gave a monologue, after which dancing was enjoyed until a late hour.

COMPETITIONS

A SMALL HOME

Architects, architectural draftsmen, students or anyone qualified by training and experience in architectural design and rendering, are eligible to participate in a small homes competition just announced, prizes to include travel abroad with all expenses paid and a liberal allowance for tips and incidentals.

The contest, sponsored by the Midwest chapter of the American Institute of Architects for the Monolith Portland Midwest Company, closes on October 15, 1929, and in so far as the trips are concerned, the prizes may be transferred by the winning contestants to architectural draftsmen or students in case the winners are unable to make the tours.

While additional information on the contest should be obtained from the Denver offices of the Monolith Portland Midwest Company, the designs shall be of a home for a family of moderate means, suitable for a city or suburban lot in the Midwest section of the United States. The dwelling shall contain not more than six main rooms, a combination living and dining room to be considered as two rooms. Including the thickness of walls and other construction, exclusive of basement and garage, the dwelling shall contain not more than 18,000 cubic feet. The plot is to be an inside lot without alley, rectangular in shape, not wider than 60 feet nor longer than 150 feet. At least 75 per cent of the exterior must be shown finished with cement or stucco.

The prizes follow: First, three months' independent trip abroad, first class, all expenses paid, $500 in cash for tips and incidentals, trip to start within one year of prize award, itinerary to suit wishes of contestant.

Second, two months' trip abroad or a regular cruise or tour, all expenses paid, $300 in cash for tips and incidentals, to start within year after award, cruise or tour to be selected by contestant.

Third, three weeks' trip anywhere in the United States, including transportation, hotel expenses and $150 for meals en route and incidentals.

Additional awards, honorable mention for next ten best designs for which $50 in cash will be given, in addition to a copy of Richard S. Requa's "Old World Inspiration for American Architecture"; special prizes, one of $100 and four $50, each accompanied by a copy of Mr. Requa's book, will be given for the best five articles on the importance of architect's services in designing and building a home.

WINNERS IN BRIDGE COMPETITION

M. W. Kleinman, student in the University of Illinois, has been awarded the first cash prize of $500, for the most aesthetic design for a theoretical bridge in steel. The contest was held by the Beaux Arts Institute of Steel Construction for the purpose of stimulating an interest in improved bridge designing.

The second prize of $250 went to P. A. Bezy of the University of Illinois, while the third prize of $100 went to W. J. Jensen of Atelier Hirons.

The contest was limted to architectural students in the various schools and ateliers affiliated with the Beaux Ats Institute of Design. In response to the first request for sketches 57 designs were submitted.

FOR AN AIRPORT

A competition for an airport is announced by the Lehigh Portland Cement Company. The competition is open to architects, engineers and city planners. Total prizes of $10,000 are offered to be distributed as follows: First prize, $5,000; second prize, $2,500; third prize, $1,000; fourth prize, $500; ten honorable mentions, $100 each.

The competition closes November 18, 1929. The program (which has been officially approved by the New York Chapter, American Institute of Architects), is contained in a 16-page booklet, copies of which may be obtained on request. Write or wire Lehigh Airports Competition, care Lehigh Portland Cement Company, Allentown, Pennsylvania.

HEATING PROBLEM IS SOLVED IN ARCHITECT'S CALIFORNIA HOME

AN unusual heating problem was presented in the beautiful Flintridge residence of F. Q. Stanton, of the firm of Stanton, Reed and Hibbard, architects and builders of Los Angeles. Its architecture is the simple, sturdy, Spanish type which fits so charmingly into the landscape of California.

The two-story portion of the floor plan includes a wing at one end set at an angle from the perpindicular with a one-story living room at the other extremity. Because of the length of the house and the large floor space, it was thought inadvisable to excavate a basement under the entire house, so the problem was solved by specifying unit type gas furnaces, single and in batteries, supplying heat to natural groups of rooms, with short runs between furnace and register.

The Payne unit heating system was installed with a three-unit battery of two No. 2 and one No. 3½ furnaces in a moderate sized basement under the entrance hall. One of these units supplies heat through two wall-type registers to the large living room; another unit is connected with short turns to the dining room and sun room; and the third warms a bedroom and library on the second floor. Another battery of two No. 0 units is located in a small basement at the most distant end of the house, one connected with the maid's room, the other with the master's bedroom and adjoining bath and dressing rooms in the second story. To provide heat for the intervening rooms between the two batteries of furnaces, two single units were installed, one below a storage room and another below the screen porch.

This use of unit type furnaces permits the utmost flexibility in heating all or any desired single portion of the house. The batteries and single furnaces are so placed that each unit heats approximately the same cubic volume of room space. Cold, fresh air is drawn directly from outdoors to each unit, heated and sent to the registers of the various rooms. The whole heating system is controlled by push button and clock so that fuel consumption is reduced to actual requirements and waste completely eliminated.

GARDEN VIEW, HOUSE OF F. Q. STANTON, FLINTRIDGE
Stanton, Reed & Hibbard, Architects

INTERIOR, HOUSE OF F. Q. STANTON, FLINTRIDGE
Stanton, Reed & Hibbard, Architects

MID-SUMMER MEETING

On July 16th, the Los Angeles and Pasadena Architectural Clubs joined forces and held a joint celebration at the Masonic Temple, 200 S. Euclid. It was ladies' night and the presence of much charming femininity marked the evening a success from the beginning.

Over two hundred members and their guests were seated in the banquet hall where a dinner of fried chicken and attendant delicacies was served.

After welcoming the guests, Robert Stanton, president of the Pasadena Club, turned the meeting over to Henry William Greene. Among those introduced during the dinner were: George P. Hales, president of the Los Angeles Club; Roy Parkes, former head of the Pasadena organization; Roy Kelley, winner of the *House Beautiful* competition and others.

The Pasadena Club offered Roy Regnier in monologues, who in turn, was followed by musical entertainers from the Pasadena Junior Chamber of Commerce. The Los Angeles organization, not to be outdone, presented their own club trio, George Hales, Harold Shugart and Ted Johns, who sang some touching ballads.

Speeches and the more formal entertainment over, the tables were cleared and dancing concluded the evening.

Continuing the policy of informal social meetings during the summer, the Los Angeles Architectural Club will hold, on August 20th, a beach party. There will be swimming in the afternoon for those who desire, followed by a dinner and dance at the Santa Monica Athletic Club.

ANNOUNCEMENT

The Fire Protection Products Company, J. C. Schultheis, manager, 1101 Sixteenth street, San Francisco, announces to the architectural profession and the building trades, its appointment as Northern California distributors for the Campbell Solid Metal Window. The Campbell Company is one of the best known manufacturers of metal windows in the United States. Its factory is in Baltimore, Md.

Any information concerning the window, such as details, cost of installation, etc., may be obtained by addressing the Fire Protection Products Company. One of the latest Campbell installations in San Francisco placed through Mr. Schultheis' company, is a car load of double hung metal windows for the new San Francisco Stock Exchange, Miller and Pflueger, architects, and Lindgren-Swinerton, Inc., builders.

CONCEALED DOOR CHECK

The Condor concealed door check and closer are the outgrowth of a device introduced in the San Francisco Bay District about two years ago. The concealed feature registers an important step in modern builders hardware, for it unquestionably fills a long felt need. Architects who have been called upon to design attractive interiors have been forced to mar them by the installation of unsightly door checks, consequently the introduction of a concealed check is welcomed with enthusiasm.

"The mechanical principals of Condor construction are correct," to quote one of its makers. "It is a simple operation of a piston pressing against a restricted flow of oil in a cylinder forcing the oil through orifices, into a reservoir. Three visible adjustment screws regulate the flow of oil through these passages. One regulates the speed of closing the door, another times the initial checking of the door under severe draft conditions, while the third is needed only to give a final "kick" to a stiff latch. These adjustment screws, in plain sight when the door is open, are regulated by a slight turn with a small screw driver.

"The closer is independent of the check, consisting of a spiral compression spring, nine and one half inches long, contained in a metal tube, chain connecting at one end with the spring and an adjustment screw at the other end. The tension is completed by turning the visible adjustment screw.

"The check and closer are manufactured of the best materials available.

"The Condor concealed door check is made in three sizes, Models A, B, and C, corresponding to Nos. 2, 3, and 4 of the standard visible checks. Model A is designed for light doors, half doors and wickets; B, for moderate size interior doors and doors where draft conditions are negligible; C, for large, heavy doors and where draft conditions may be severe. The Condor check is suitable for any shape door, and unusual conditions, and works equally well in steel or wood doors. A carpenter of average ability can install these checks.

"The cost of installation on a replacement job will exceed that of the visible type by approximately fifty per cent but the cost of installation in a new building, where the doors are mortised at the factory, should not exceed that of the visible type. The cost of the Condor check is slightly in excess of the standard visible check but the difference is negligible compared with its advantages."

NEW HOME OF PORT COSTA BRICK WORKS

ARCHITECTS, owners and builders find it a pleasure to visit the new offices and salesrooms of the Port Costa Brick Works at 6th and Berry streets, San Francisco, because of the uniqueness of the building and hospitality of its officers. The office is something quite different and distinctive. Instead of the commonplace box-like office building, the architect, Martin Rist, has designed an English bungalow, which has all the atmosphere of a comfortable home. The building is made from the various clay products manufactured by the Port Costa Company, cleverly worked into an integral part of the structure, both outside and in.

The building not only serves the needs of the executive staff but demonstrates the possibilities of the materials manufactured, such as common, select reds, klinker, velour and bronze face brick, promenade tile and hollow wall tile. Both the interior and exterior walls combine all of the above grades, thus offering to the architect a pleasing and practical demonstration of the Port Costa Brick Works' products, together with suggestions of textures, patterns and colors. The masonry work on the new building was executed by Martin Nelson.

Besides splendid rail accommodations the firm enjoys excellent water shipping facilities, both close to the company's property. The personnel of the Port Costa Brick Works includes R. H. Berg, president, and B. R. Hoerr, secretary and sales manager.

Recent contracts include a number of San Francisco school buildings, the Frick School in Oakland, given an Honor Award by a Jury of Los Angeles architects, fire station at Portola, Life Sciences building, University of California, and the new Glidden factory, Berkeley.

OFFICE BUILDING FOR PORT COSTA BRICK WORKS, SAN FRANCISCO
Martin Rist, Architect

TRUSCON EXECUTIVE PROMOTED

H. B. Miller, executive vice-president of the Truscon Steel Company, has been transferred from the home office at Youngstown, O., to the Los Angeles office. Mr. Miller has assumed charge of the entire Pacific coast organization, extending from Seattle to San Diego and embracing all the western territory of the Truscon Steel Company.

Mr. Miller has been with the Truscon Steel Company for a number of years in various executive capacities and his transfer to the Pacific coast is not only in appreciation of his long and efficient service with the company but is the result of increased business in the Pacific coast territory.

STEEL PRODUCTS COMPANY MOVES

The Detroit Steel Products Company has moved both its San Francisco and Los Angeles offices to larger and more central locations. The San Francisco office is now in the Hunter-Dulin building, Sutter and Montgomery streets, while the Los Angeles office has been moved from the Hibernian Building to 818 Pershing Square Building.

Courtesy The Lintel

ELEVATION, WAR MEMORIAL CHAPEL BY FLOYD RIBLE, L. A. A. C., SUBMITTED IN THE 1929 LE BRUN TRAVELING SCHOLARSHIP COMPETITION. MR. RIBLE'S DESIGN RECIEVED FIRST MENTION AND WAS PLACED SECOND.

IMPORTANT AMENDMENTS TO THE CALIFORNIA HOUSING ACT

Three bills amending the California State Housing Act, passed by the legislature at its recent session, became effective August 14. The changes made in the provisions of the act were agreed upon at conferences of the State Housing Commission with building inspectors of the various cities, previous to the introduction of the bills, and are considered as desirable in the interests of building owners and in the reasonable enforcement of housing regulations.

Senate Bill No. 233, amends certain sections relating to air intakes, gas stoves, ventilation, porches in dwellings and yards. Senate Bill No. 234 amends Section 56, relating to garages. Both these bills were introduced by Senator Murphy. The text is published herewith. The third bill, Assembly Bill No. 1177, amends Sections 10 and 14, relating to definition of terms and to rear yards of apartment houses, and was introduced by Mr. Seawell.

HOUSING ACT CHANGES

An act to amend sections 5, 11, 26, 31, 36, 45, 48, 49, 56, 58 and 60 of the "state housing act," approved June 15, 1923, as amended, relating to air intakes, sinks, exits, ceiling heights, gas water heaters, gas stoves, ventilation, porches in dwellings and yards.

The people of the State of California do enact as follows:

Section 1. Section 5 of the state housing act, approved June 15, 1923, as amended, is hereby amended to read as follows:

Sec. 5. A building or structure not erected for use as an apartment house, hotel or dwelling, if hereafter converted to or altered for such use, shall thereupon become subject to all of the provisions of this act affecting an apartment house, hotel or dwelling, as the case may be, hereafter erected.

A building erected for use as an apartment house, hotel or dwelling, if moved, shall be made to conform to all of the provisions of this act affecting such a building hereafter erected, in so far as such provisions pertain to the percentage of lot occupied and the size of outer courts, inner courts bounded by a lot line, yards and heights.

It shall be unlawful to reconstruct any building which is hereafter damaged by fire or the elements to an extent in excess of sixty (60) per cent of its physical proportion, unless the said building is made to conform to all of the provisions of this act affecting buildings hereafter erected.

Any building hereafter erected, altered or converted as a combined apartment house and hotel, containing both apartments and guest rooms, shall comply with all of the requirements of this act for apartment houses and hotels in so far as such provisions are applicable to those portions of the building used, designed or intended for use of apartments or guest rooms as the case may be and any such building shall be provided with a rear yard as required for apartment houses. The portion or portions of such building containing apartments, including every apartment in the building, must comply with all apartment house requirements, and the portion or portions of such building used for hotel purposes, including every guest room and dormitory, must comply with all hotel requirements. A hotel classification of any building shall not be construed to allow rooms in apartments to be reduced in size.

BUILDING IN REAR

Sec. 2. Section 11 of said act is bereby amended to read as follows:

Sec. 11. A building shall not be erected behind another building or structure and there shall not be placed a building or structure in the front of a building unless the rear building shall have left an open, clear and unobstructed space not less than ten feet in width, extending from the front of the rear building to the front line of the lot bordering on the street, and if said front building or structure is more than two stories in height such an open and unoccupied space shall be increased two feet in width open, clear and unobstructed to the sky for each additional story thereof; provided, however, that if such rear building is to be designed, built or used as a dwelling, or an apartment house not more than two stories in height, accommodating not more than two families on the second story thereof, such passageway need not be maintained if the rear building has unobstructed access to a street other thao the street fronting the lot, or to an alley not less than ten feet in width; provided, however, that where there are only two buildings on the same lot and both said buildings are one-story dwellings accommodating not more than two families in each dwelling, such passageway may be reduced to five feet.

INTAKES FOR INNER COURTS

Sec. 3. Section 26 of said act is hereby amended to read as follows:

Sec. 26. Every inner court, including inner courts bounded on one side for their entire length by a lot line in an apartment house hereafter erected shall be provided with a horizontal intake at the bottom of such court. Every such intake shall always extend directly to the front of lot or front yard or rear yard or to a side yard or to a street or to a public alley or public park. Each such intake shall consist of an unobstructed duct or passageway having a minimum width of three feet in all its parts and a minimum beight of six feet, six inches. In lieu of such passageway there may be an unobstructed open duct to contain an interior aggregate area of not less than nineteen and one-half square feet, and in no dimensions be less than three feet, and covered at each end with a wire screen with a mesh of one-half inch in diameter; provided, however, in case the inner court in an apartment house does not extend below the second floor level, then each such air intake may consist of an unobstructed open duct or ducts, constructed of materials as hereinafter set forth and contain an interior aggregate area of not less than ten square feet, and in no dimensions be less than twelve inches, and covered at each end with a wire screen with a mesh of one-half inch in diameter.

Every inner court including inner courts bounded on one side for their entire length by a lot line in a hotel hereafter erected shall be provided with a horizontal intake at the bottom of such court. Every such intake for a court in a hotel shall contain an aggregate area of not less than five square feet, and such intake shall consist of an unobstructed open duct or ducts constructed of materials as hereinafter set forth, and such ducts shall be covered at each end with a wire screen with a mesh of one-half-inch in diameter.

Every such intake shall be constructed of approved incombustible materials, or shall be lathed with metal lath and plastered not less than three-quarters of an inch thick, or shall be sheathed solidly with not less than twenty-five thirty-seconds (25/32) inch boards and be covered with at least number twenty-six (gauge) galvanized iron. Such air intake shall be closed at each end with a gate or grill having not less than seventy-five per cent open work.

Every air intake shall be drained and so constructed and arranged as to be readily cleaned out.

The provisions of this section shall not apply to apartment houses and hotels of not more than two stories in height from the lowest floor which is used for living and sleeping apartments or room.

WINDOWS IN ROOMS

Sec. 4. Section 31 of said act is hereby amended to read as follows:

Sec. 31. In every building hereafter erected, every living room, bedroom, guest room, dormitory, kitchen, scullery, pantry (except pantries in apartments) or other rooms in which food is stored or prepared, dining-room, general amusement, entertainment or reception room and room or compartment wherein there is installed a water-closet, shower, bath tub or toilet or general utility room shall have a window or windows of the area hereinafter required, opening directly onto a street, public alley, or a yard or court of the dimensions specified in this act and located on the same lot.

All such windows shall be located so as to properly light all portions of the room or compartment as the case may be, and shall be made and arranged so that at least one-half of the aggregate window area, required in each such room or compartment, may be opened unobstructed.

The windows required by this section in a water-closet or shower compartment, bath, toilet or slop-sink room may open directly into a vent shaft in lieu of a street, yard or court. Such vent shaft shall be not less than the minimum size, and constructed of the materials and in the manner prescribed by section 56 of this act.

Windows required by this act for rooms and public hallways, in apartment houses and hotels hereafter erected, shall not open through roofed porches more than seven feet in depth, measured at right angles from such windows unless such roofed porches abut a street, yard or court and such roofed porches shall be designed and constructed with one side and one end thereof open and unobstructed, except the usual rails, balustrades and similar necessary structural features and such open and unobstructed portion shall be at least sixty-five per cent open and unobstructed measured between the floors and underside of roofs of such porches where such roofed arches are on the ground or main lower floor of the apartment house or hotel, but where such roofed porches are erected above the first or main lower floor such roofed porches shall be designed and constructed with one side and one end thereof open and unobstructed, except the usual rails, balustrades and similar necessary structural features, and such open and unobstructed portions shall be at least ninety per cent open and unobstructed measured between the floors and the underside of roofs of such porches; and provided, that any such roofed porch of seven feet or less in depth shall in the same manner have open and unobstructed on at least one side or end at least fifty per cent on the full side or end measured at right angles from the windows served and every porch shall have a ceiling height of not less than seven feet.

Windows required by this act for rooms in dwellings hereafter erected shall not open through a roofed porch unless such roofed porch abut a street, yard or court, and such roofed porch shall be designed and constructed with one side or end open and unobstructed except the usual rails and balustrades and similar necessary structural features, and such open and unobstructed portion shall be at least fifty per cent open and unobstructed measured between the floor and underside of roof, and every such porch shall have a ceiling height of not less than seven feet.

In a hotel, kitchens, sculleries pantries or other rooms used for cooking, storing or preparing of food, and in an apartment house or hotel, water-closet or shower compartments, bath, toilet, general amusement rooms, reception room, public dining rooms and general utility rooms in lieu of windows may be ventilated by an exhaust system of ventilation installed, constructed and maintained as hereinafter prescribed by section 60 hereof.

WATER CLOSET COMPARTMENTS

Sec. 5. Section 36 of said act is hereby amended to read as follows:

Sec. 36. In every apartment house hereafter erected there shall be installed one water-closet within each apartment located in a separate compartment or located in a compartment with a bath tub, shower or lavatory, used exclusively by the occupants of the apartment.

In every hotel hereafter erected there shall be installed not less than one water-closet in a separate compartment, located on the public hallway, for each sex on such floor. One of such water-closets shall be distinctly marked "for men" and one of the water-closets shall be distinctly marked "for women"; and if there are more than ten guest rooms in such hotel there shall be installed at least one water-closet in a separate compartment, located on the public hallway, for every ten guest rooms or fractional part thereof in excess of ten guest rooms on such floor which are not provided with private water-closets. Each of the said water-closets shall be accessible from each of the guest rooms through the public hallway, and not more than one hundred feet distant from the entrance door of each of the guest rooms the said water-closet proposes to serve.

Every dwelling hereafter erected shall be provided with one water-closet for each family living therein; and every kitchen in every such dwelling shall be provided with a kitchen sink.

No door or other opening in a water-closet or urinal compartment shall open from or into any room in which food is prepared or stored in an apartment house or hotel, or dwelling.

In an apartment house or hotel the walls enclosing a water-closet compartment shall be well plastered, or constructed of some nonabsorbent material, except that the ordinary wood trim for openings may be used in such a compartment. Every water-closet compartment shall be provided and equipped with a full door, properly hung, and provided with a lock or bolt to lock same.

In every hotel hereafter erected, there shall be installed in convenient and suitable places one water-closet for each twenty employees or major fraction thereof.

The floor of every water-closet compartment hereafter constructed, in an apartment house or hotel, shall be made waterproof with asphalt, tile, marble, terrazzo, cement or some other similar nonabsorbent material, and such waterproofing shall extend not less than two inches on the vertical walls of the compartment.

EGRESS AND STAIRWAYS

Sec. 7. Section 45 of said act is hereby amended to read as follows:

Sec. 45. Every apartment house hereafter erected three or more stories in height, and every apartment house hereafter erected two or more stories in height and in which there are more than four apartments above the first floor thereof, and every hotel hereafter erected three or more stories in height, and every hotel hereafter erected two stories in height and in which there are more than six guest rooms above the first floor thereof, shall be so designed and constructed that every apartment and or guest room shall have not less than two means of egress to the floor next below and to a street or to a yard or court having unobstructed access to a street or public alley. Such means of egress shall be either stairways or fire escapes constructed in accordance with the provisions of this act.

Such means of egress shall be accessible from every apartment, or guest room, either directly or through a public hallway, and so located that should one egress be or become blocked, the other egress shall be available.

No stairway shall abut on more than one side of an elevator shaft, except on the lowest and topmost stories, and then only if the stairway is so located that it can be approached from the street entrance without passing by or in front of the open side of the said elevator shaft.

No stairway shall be located over a steam boiler, gas meter, gas heater or furnace, nor shall any such boiler, meter, heater or furnace be placed or located under a stairway, unless such boiler, gas meter, gas heater, or furnace be located in a room, the walls and ceilings of which are constructed as required for a boiler room by section 58 of this act. No stairway leading from any other portion of the building shall terminate in or pass through a boiler room.

STAIRWAYS TO ROOFS

Sec. 6. Section 48 of said act is hereby amended to read as follows:

Sec. 48 In every apartment house or hotel hereafter erected more than two stories in height, the stairway nearest to the main entrance of the building shall be carried to the roof level and shall give egress to the roof through a penthouse or roof structure if the pitch of roof makes it practicable to construct such a penthouse or roof structure with safety to the occupants that they may have occasion to use such egress, otherwise in such building there shall be constructed a scuttle in the public hallway over the stairway. The stairway from topmost story to roof level shall not be less in width than two feet, six inches. The scuttle shall be not less than two feet by three feet in area and shall be cut through the ceiling and roof and there shall be provided a stairway for stationary ladder not less than twenty inches wide and rungs not more than twelve inches apart leading from the top floor to the roof thereof.

Penthouses over stairways shall be built either of fireproof materials or of wood studs, lathed with metal lath and plastered not less than three-quarters inch thick; or such penthouses may be covered in the same manner and with the same kind of materials as required by this act for the doors from such penthouses.

The door to the roof from a penthouse or roof structure shall be self-closing and shall open outward to the roof, and shall be covered on both sides and edges with tin or other metal.

The frames and trim of such door opening shall be similarly constructed and all glass in such door shall be wired glass not less than one-fourth-inch thick.

Every now existing apartment house or hotel of more than two stories in height, that is not provided with a stairway to the roof as hereinbefore prescribed shall have in the roof a penthouse or a scuttle, which scuttle shall be not less than two feet by three feet in area, located in the ceiling of a public hallway, and there shall be provided a stairway or a stationary ladder, leading from the top floor of such apartment house or hotel to the roof thereof. Such stairway or stationary ladder shall be made readily accessible to all the tenants of the building. No scuttle or penthouse door shall at any time be locked with a key, but may be fastened on the inside by a movable bolt or lock.

WIDTH OF PUBLIC HALLWAYS

Sec. 8. Section 49 of said act is hereby amended to read as follows:

Sec. 49. Public hallways and corridors from stairways shall be measured in the same manner as the stairways and be not less than three feet, six inches, in width, with a ceiling height of not less than eight feet, measured from the finished floor to the finished ceiling.

This section shall not apply, however, to furred beams or occasional structural beams with a minimum height of seven feet, six inches.

SIZE OF VENT SHAFTS

Sec. 9. Section 56 of said act is hereby amended to read as follows:

Sec. 56. In every apartment house or hotel hereafter erected, every vent shaft shall be enclosed with walls constructed the same as is required by this act for an elevator shaft in the same class of building. Such a vent shaft may, in a semi-fireproof or wooden apartment house or hotel, be lined on the outside thereof (weather side) with metal in lieu of metal lath and plaster; also, that portion of such shaft extending from the ceiling joists to the top thereof may be lined with metal in the same manner as is required for the weather side of such vent shaft. Where metal lining is used in a shaft, then and in that event such shaft shall be sheathed solid with boards not less than twenty-five thirty-seconds (25/32) of an inch in thickness.

Every opening from any vent shaft into the building or any window therein shall be equipped in the same manner as required by this act for elevator shafts in the same class of building.

Plaster on the weather side of any such shaft shall be of Portland cement plaster.

Every vent shaft by this act provided for an apartment house shall be not less than four feet in any direction and be at least sixteen square feet in area; provided, however, that a vent shaft that is bounded un one or more sides by a lot line may be not less than two feet in any direction and be at least sixteen square feet in area. If such vent shaft exceeds fifty feet in height, measured from the bottom to the top of the walls of such shaft, then such vent shaft shall throughout its entire height be increased in area one square foot for each additional ten feet or fractional part thereof above fifty feet.

Every vent shaft by this act provided for a hotel shall be not less than thirty inches in its least dimension and contain an unobstructed area of not less than twelve square feet. Every vent shaft shall be open and unobstructed to the sky and at the roof line every vent shaft in an apartment house or hotel shall be provided with parapet wall or rail at least thirty inches in height so constructed that no person may walk into or fall into such shaft.

Every such vent shaft in an apartment house or hotel hereafter erected shall be provided with an air intake or duct at or near the bottom thereof, communicating with the street or yard or a court. Such intake shall be not less than three square feet in total area, and may be divided into not more than three separate ducts running between the joists or otherwise, and shall in all cases be placed as nearly horizontal as possible. Every such intake or duct shall be constructed of approved fire-resistive material or shall be of wood lined, and be provided with a wire screen not less than one-half inch mesh at each end. Whenever the end of an intake is capped, hooded or otherwise covered, there shall always be provided a clear space of not less than four inches above and between the end of such intake and the lower part of the cap, hood or other covering.

Plumbing, gas, steam or other similar pipes may be placed in vent shafts in apartment houses or hotels. Every vent shaft shall be so arranged as to permit of its being readily cleaned out.

The provisions of this section as to air intakes shall not apply to apartment houses and hotels of not more than two stories in height from the lowest floor, which is used for living and sleeping purposes.

Every vent shaft by this act provided for a dwelling, hereafter erected, shall be not less than eighteen inches in its least dimension and shall be open and unobstructed to the sky.

BOILER ROOMS

Sec. 10. Section 58 of said act is hereby amended to read as follows:

Sec. 58. In every apartment house or hotel hereafter erected, every boiler used for purposes of heating the building, using fuel other than gas, and every heating furnace or water heating apparatus, using oil or other liquid fuel, shall be installed in a room, the walls of which room shall be built of concrete, reinforced concrete, brick, stone or concrete or terra cotta tile, not less than six (6) inches thick, and such walls shall extend from the floor of the boiler room to the ceiling over same. The entire ceiling of such room shall be built with a doubled ceiling, with a space not less than one and one-half inches between the two ceilings and each ceiling shall only be metal lathed and be plastered not less than three-quarters (¾) inch thick, or in lieu of a double ceiling or metal lath such ceiling may be constructed of masonry. The floor of a boiler room shall be of masonry not less than two (2) inches thick.

Any door in the wall of such rooms shall be an approved fire-resisting door or a door constructed of three (3) thicknesses of twenty-five thirty-seconds (25/32) inch by not more than six (6) inches, tongued and grooved, matched boards entirely covered on the sides and edges with lock-jointed tin; every such door shall be self-closing, so hung as to overlap the walls of the room at least three (3) inches, and any glass in any such door or any glass in any window or opening in the walls of a boiler room shall be wired glass, not less than one-fourth (¼) inch thick, set in a metal and/or metal covered sash and frames. Wherever wired glass is required it shall be retained in place by metal covered stops or metal glazing angles.

All such doors shall have hinges, hangers, latches and other hardware of wrought iron, bolted to the doors, and shall have steel tracks, when sliding doors are used, with wrought iron stops and binders bolted through the walls Swinging doors shall have wall-eyes of wrought iron, built into or bolted through the wall. No combustible materials shall be used in hanging the door or its fittings.

Every such boiler room shall have a sill across each door not less than four (4) inches high. Such sill shall be of masonry, and the doors shall overlap same at least three (3) inches, or in lieu of a masonry sill a steel or iron sill may be used, in which case the bottom of the door shall close tight on top of same. Every swinging door in a boiler room shall open outward from the boiler room.

Where oil or other liquid fuel is burned, the oil or other liquid fuel shall not be fed by a gravity flow.

Every gas water heater shall be provided with a vent pipe, which may be of sheet metal not smaller than the vent connection on the appliances nor less than two and one-half ($2\frac{1}{2}$) inches internal diameter, and which shall in all cases be connected to a vertical, or substantially vertical flue, vent or chimney leading to the outer air. Such vertical vent, chimney, or flue for gas water heaters and similar gas-fired appliances shall be either a terra cotta patent chimney or constructed of brick, fire clay or similar masonry products not less than one-half inch thick, or other approved durable pipe having a wall thickness which will give an insulating value equal to the foregoing, which will not disintegrate from the effects of gas fumes and other products of combustion. The internal area of any such flue, vent or chimney shall not be less than twelve square inches and no such flue, vent or chimney of a rectangular shape shall not be less than two inches in any internal dimension.

In the kitchen of every building hereafter erected there shall be provided a flue, vent, or chimney similar to that as hereinabove provided for gas water heaters, in the wall of the kitchen adjacent to the gas outlet, and the oven of the gas range shall be connected to such vent; or in lieu of such vent there may be installed a ventilator opening in the wall or ceiling approximately over the gas outlet and having an area of the opening of not less than six inches by eight inches (6x8 in.) and connecting with a ventilating duct for each kitchen of not less than twenty-four square inches across section area leading to the outside air. An approved system of forced shaft ventilation may be substituted in lieu of the above natural draft ventilating arrangement.

All gas vents, gas water heaters and other gas appliances now installed, and hereafter installed, shall be maintained in good repair.

FAN EXHAUST SYSTEM

Sec. 11. Section 60 of this act is hereby amended to read as follows:

Sec. 60. In every hotel hereafter erected the water-closet compartments, shower compartments, bath, toilet or slop-sink rooms, kitchens, sculleries, pantries or other rooms in which food is stored or prepared, public dining rooms, laundries, general amusement, entertainment or reception rooms, and rooms used for similar purposes and general utility rooms, in lieu of being provided with windows, as in this act prescribed, may be provided with an approved fan exhaust system of ventilation, so designed and operated as to provide a complete change of air in not to exceed fifteen minutes for each room used for the following purposes: Kitchens; pantries or other rooms used for cooking, storing or preparing foods; laundries, general amusement, entertainment, reception or dining rooms, or rooms used for similar purposes; general utility rooms, and public hallways in fireproof hotels, and the said fan exhaust system of ventilation shall be so designed and operated as to provide a complete change of air in not to exceed five minutes for each room used for the following purposes: Water-closets; shower compartments; bath, toilet or slop-sink rooms or sculleries.

In every apartment house hereafter erected the water-closet compartments, bath or toilet rooms, general amusement, entertainment or reception rooms, and general utility rooms, in lieu of being provided with windows, as in this act prescribed, may be provided with an approved fan exhaust system of ventilation so designed and operated as to provide a complete change of air in not to exceed fifteen minutes for each room used for the following purposes: General amusement, entertainment and general utility rooms or rooms used for similar purposes; and the said fan exhaust system of ventilation shall be so designed and operated as to provide a complete change of air in not to exceed five minutes for each room used for the following purposes: Water-closets; shower compartments; bath or toilet rooms.

Any person in charge of a building in which a system of fan exhaust ventilation is installed and used as in this section prescribed, who fails, neglects or refuses to operate and maintain the said system of ventilation in good order and repair so that the ventilation (complete change of air) herein specified is provided in each of the rooms or compartments at all times, shall be deemed guilty of a misdemeanor and subject to all of the penalties fixed by this act.

REQUIREMENTS FOR GARAGES

An act to amend section 59 of the "state housing act," approved June 15, 1923, as amended, relating to garages.

The people of the State of California do enact as follows:

Section 1. Section 59 of the state housing act, approved June 15, 1923, as amended, is hereby amended to read as follows:

Sec. 59. No automobile or other motor vehicle shall be placed or stored in an apartment house or hotel hereafter erected except under the following conditions:

When the total space of any floor to be used for such purpose is one thousand (1000) square feet or less the enclosing walls of such space shall be of concrete, reinforced concrete, brick, stone, concrete tile or blocks, or clay tile, not less than four (4) inches thick or may be of wood studs covered on the storage room side by not less than twenty-five thirty-seconds (25/32) inch boards with one thickness of asbestos paper and one thickness of lock-jointed number twenty-six gauge galvanized iron, or such wood studs shall be covered on both sides with three-quarters ($\frac{3}{4}$) inch metal lath and plaster. The ceiling of such space shall be lathed only with metal lath and shall be well plastered not less than three-quarters ($\frac{3}{4}$) inch thick, or such ceiling may be of masonry. The floor of such space shall be of reinforced concrete or masonry not less than two (2) inches thick. Every door, window, or other opening in the walls of such space opening to any other portion of the building shall be protected in the same manner as required by this act for doors, windows, or other openings in a boiler room.

When the total space of any such floor to be used for such purpose exceeds one thousand (1000) square feet and does not exceed four thousand (4000) square feet no compartment in such space shall exceed two thousand (2000) square feet, unless such space conforms to the requirements for spaces exceeding four thousand (4000) square feet. The partitions and enclosing walls of such space shall be constructed as in this section provided for a space not exceeding one thousand (1000) square feet. The ceilings thereof shall be constructed of a double ceiling and such ceiling shall be lathed only with metal lath and plastered not less than three-quarters ($\frac{3}{4}$) inch thick and shall have a space between the two ceilings of not less than six (6) inches measured vertically and the lower ceiling shall be suspended with metal; or in lieu of the metal lath and plastered ceilings such ceiling may be constructed of masonry not less than three (3) inches thick. The floor of every such space shall be of masonry not less than three (3) inches thick. Every door in any wall of such space opening to any other portion of the building and every door in any partition shall be self-closing. Every door, window, or other opening in any partition and any door, window, or other opening in any wall opening into other portion of the building shall be protected in the same manner as required in this act for openings in a boiler room.

four thousand (4000) square feet the partitions and enclosing walls of such space shall be built of concrete, reinforced concrete, brick, stone, concrete tile or blocks, or clay tile, not less than eight (8) inches thick. The ceiling of every such space shall be of masonry not less than three (3) inches thick. The floor of every such space shall be of masonry not less than three (3) inches thick. No door or other opening leading from such storage space to any other portion of the building shall be allowed unless there is provided a vestibule with enclosed walls continuous with and of the same construction and thickness as the enclosing walls of the storage space, and the vestibule openings from the interior of the building shall be equipped with metal lined doors.

Every space in a building hereafter erected in which automobiles or other motor vehicles are placed or stored shall be provided with ventilation as follows:

When the total space on any floor to be used for such purpose is four thousand (4000) square feet or less, such space shall be provided with ventilation outlets in the wall thereof.

The total areas of such ventilating outlets shall be as follows: For a space of one thousand (1000) square feet or less, two hundred (200) square inches. For each additional space of two hundred (200) square feet over one thousand (1000) square feet this area shall be increased fifty (50) square inches until the total area becomes five hundred and twenty-five (525) square inches, which shall be the maximum required for a space of not more than four thousand (4000) square feet.

The top of the ventilating outlets shall be not more than eighteen (18) inches above the floor. Such outlets shall be protected with galvanized screen or rods not less than three-eighths ($\frac{3}{8}$) inch in diameter so as to provide openings of one-half ($\frac{1}{2}$) inch mesh.

Protections of ornamental design may be used provided they are galvanized and have a strength equal to that of the rods. All protections shall be firmly anchored in or secured to their supports. All ventilating outlets shall lead directly to a free and unobstructed circulation of air; but shall not lead into inner courts.

When the total space on any floor to be used for such purpose has a floor area of over four thousand (4000) square feet, a mechanical exhaust ventilation system shall be provided. This system shall consist of power-driven exhaust fan or fans of the positive centrifugal type and shall have sufficient capacity to exhaust a quantity of air equal to not less than six times the cubic contents of such space each hour. This mechanical exhaust shall be drawn from a point not more than eighteen (18) inches above the floor line and shall be evenly distributed over the entire area in which automobiles are stored. The fan discharge shall be taken to a point above the roof of the building or to the outer air at a point not less than ten (10) feet from any window in the building or any adjoining building.

No portion of any apartment house or hotel hereafter erected shall be used as an auto repair shop or machine shop, auto salesroom, auto top and upholstering shop, accessory shop, or battery repair shop unless such space conforms to the requirements for a motor vehicle storage space in excess of four thousand (4000) square feet as provided in this section.

No portion of any apartment house or hotel hereafter erected shall be used as a paint shop or store, gasoline or oil service station or store, or vulcanizing shop.

DOORWAYS FOR JULY

Richard-Wilcox, *"Doorways"* for July, presents a number of interesting views in South America. Important buildings, public and otherwise, in which R-W ball bearing steel beam trolleys are used are shown, also limit rings equipped with R-W folding partition door hardware and track and trolley hangers.

NEW MANTEL CATALOG

Henry Klein & Co., Inc., 40 W 23rd street, New York, announce publication of a new mantel catalog which will be mailed to architects and others interested on request. The mantels illustrated are known as the "Driwood" type.

Estimator's Guide

Giving Cost of Building Materials, Wage Scale, Etc.

Amounts quoted are figuring prices and are made up from average quotations furnished by material houses to three leading contracting firms of San Francisco.

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and southern part of the state. Freight cartage, at least, must be added in figuring country work.

Overtime in wage scale should be credited with time and a half, Sunday and holidays double.

Bond—1½% amount of contract.

Brickwork—
Common, $33 to $35 per 1000 laid.
Face, $100 per 1000 laid.
Brick Steps, using pressed brick, $1.10 lin. ft.
Brick Walls, using pressed brick on edge, 68c sq. ft. (Foundations extra.)
Brick Veneer on frame buildings, 70c sq. ft.
Enamel, $120.00 per 1000 f.o.b. cars.
Common, f.o.b. cars, $14.50 plus cartage.
Face, f.o.b. cars, $50.00 per 1000, carload lots.

HOLLOW TILE FIREPROOFING (f.o.b. cars in carload lots).

3x12x12 in.	$ 96.00 per M
4x12x12 in.	108.00 per M
6x12x12 in.	156.00 per M
8x12x12 in.	240.00 per M

Rebate 10% cash 10 days.

HOLLOW BUILDING TILE (f.o.b. cars in carload lots).

8x12x5½	$100.00
6x12x5½	74.00

Composition Floors — 18c to 30c per sq. ft. In large quantities, 18c per sq. ft. laid.
Rubber Tile—65c per sq. ft.

Terazzo Floors—50c per sq. ft.
Terazzo Steps—$1.50 per lin. ft.
Mosaic Floors—80c per sq. ft.

Concrete Work (material at San Francisco bunkers) — Quotations below 2000 lbs. to the ton.

No. 3 rock, at bunkers	$1.40 per ton
No. 4 rock, at bunkers	1.40 per ton
Eliott pea gravel, at bnkrs.	1.40 per ton
Washed gravel, at bnkrs.	1.40 per ton
Eliott top gravel, at bnkrs.	1.40 per ton
City gravel, at bunkers	1.40 per ton
River sand, at bunkers	1.00 per ton
Delivered bank sand	1.00 cu. yd.

Note—Above prices are subject to discount of 10c per ton on invoices paid on or before the 15th of month, following delivery.

SAND
Del Monte, $1.75 to $3.00 per ton.
Fan Shell Beach (car lots, f.o.b. Lake Majella), $2.75 to $4.00 per ton.
Cement, $2.51 per bbl. in paper sks.
Cement (f.o.b. Job, S.F.), $2.71 per bbl.
Cement (f.o.b. Job, Oak.), $2.71 per bbl.
Rebate of 10 cents bbl. cash in 15 days.
Atlas "White" .....$ 8.50 per bbl.
Forms, Labors average 22.00 per M.
Average cost of concrete in place, exclusive of forms, 28c per cu. ft.
4-inch concrete basement floor.....13c to 14c per sq. ft.
4½-inch concrete basement floor.....14c to 15c per sq. ft.
2-inch rat-proofing....6½c per sq. ft.
Concrete Steps.....$1.26 per lin. ft.

Dampproofing—
Two-coat work, 20c per yard.
Membrane waterproofing—4 layers of saturated felt, $5.50 per square.
Hot coating work, $2.25 per square.

Electric Wiring — $3.00 to $9.00 per outlet for conduit work (including switches).
Knob and tube average $2.25 to $5.00 per outlet, including switches.

Elevators—
Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing an automatic elevator in four-story building, $2600; direct automatic, about $2500.

Excavation—
Sand, 70 cents; clay or shale, $1.25 per yard.
Teams, $10.00 per day.
Trucks, $21 to $27.50 per day.
Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

Fire Escapes—
Ten-foot balcony, with stairs, $70.00 per balcony.

Glass (consult with manufacturers)—
Double strength window glass, 15c per square foot.
Quartz Lite, 50c per square foot.
Plate, 75c per square foot.
Art, $1.00 up per square foot.
Wire (for skylights), 27c per square foot.
Obscure glass, 25c per square foot.
Note—Add extra for setting.

Heating—
Average, $1.80 per sq. ft. of radiation, according to conditions.

Iron—Cost of ornamental iron, cast iron, etc., depends on designs.

Lumber (prices delivered to bldg.site)
Common, $26.00 per M (average).
Common O. P. select, average, $34.00 per M.

1 x 6 No. 3—Form lumber	$21.00 per M
1 x 4 No. 1 flooring	45.00 per M
1 x 4 No. 2 flooring	42.00 per M
1 x 4 No. 3 flooring	35.00 per M
1 x 6 No. 2 and better flooring	43.00 per M
1¼ x 4 and 6 No. 2 flooring	50.00 per M

Slash grain—

1 x 4 No. 2 flooring	$37.00 per M
1 x 4 No. 3 flooring	35.00 per M
No. 1 common run to T. & G	30.00 per M
Lath	5.50 per M

Shingles (add cartage to prices quoted)—

Redwood, No. 1	$ .90 per bdle.
Redwood, No. 2	.75 per bdle.
Red Cedar	.90 per bdle.

Hardwood Flooring (delivered to building)—

	13-16x2¼" T&G	¾x2" T&G	5-16x2" Sq. Ed.
13-16x3¼" T & G Maple	$135.00 M ft.		
1 1-16x2¼" T & G Maple	145.50 M ft.		
⅞x3½ sq. edge Maple	132.50 M ft.		
Clr. Qtd. Oak	$220.00 M	$160.00 M	$178 M
Sel. Qtd. Oak	150.00 M	122.00 M	131 M
Clr. Pla. Oak	155.00 M	110.00 M	113 M
Sel. Pla. Oak	132.00 M	79.00 M	97 M
Clear Maple	147.00 M	101.00 M	
Laying & Finishing	16c ft.	15c ft.	13c ft.

Wage—Floor layers, $9.00 per day.

Building Paper—

1 ply per 1000 ft. roll	$4.00
2 ply per 1000 ft. roll	6.00
3 ply per 1000 ft. roll	9.25
Sash cord com. No. 7	$ 1.05 per 100 ft.
Sash cord com. No. 8	1.20 per 100 ft.
Sash cord spot No. 7	1.75 per 100 ft.
Sash cord spot No. 8	1.10 per 100 ft.
Sash weights cast iron	57.00 ton

Nails, $3.25 base.
Belgian nails, $3.00 base.

Millwork—
O. P. $87.00 per 1000. R. W., $100.00 per 1000 (delivered).
Double hung box window frames, average, with trim, $7.00 and up, each.
Doors, including trim (single panel, 1¾ in. Ore. pine) $7.50 and up, each.
Doors, including trim (five panel, 1¾-in. Oregon pine) $6.50 each.
Screen doors, $3.50 each.
Patent screen windows, 30c a sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., $7.00 each.
Dining room cases, $8.00 per lineal foot.
Labor—Rough carpentry, warehouse heavy framing (average), $12.00 per M.
For smaller work, average, $25 to $32 per 1000.

Marble—(Not set), add 50c to 65c per ft. for setting.

Alaska	$1.40 sq. ft.
Columbia	1.40 sq. ft.
Golden Vein Yule Colo	1.70 sq. ft.
Pink Lepanto	1.50 sq. ft.
Italian	1.75 sq. ft

Tennessee	1.70 sq. ft.
Verde Antique	3.00 sq. ft.

NOTE—Above quotations are for ⅞ inch wainscot in large slabs f.o.b. factory. Prices on all other classes of work should be obtained from the manufacturers.

Floor Tile—Set in place.

Verde Antique	$2.75 sq. ft.
Tennessee	1.60 sq. ft.
Alaska	1.35 sq. ft.
Columbia	1.45 sq. ft.
Yule Colorado	1.45 sq. ft.
Travertine	1.60 sq. ft.

Painting—

Two-coat work	30c per yard
Three-coat work	40c per yard
Whitewashing	4c per yard
Cold Water Painting	8c per yard

Turpentine, 85c per gal. in cans and 80c per gal. in drums.
Raw Linseed Oil....$1.01 gal. in bbls.
Boiled Linseed Oil..$1.11 gal. in bbls.

Carter or Dutch Boy White Lead in Oil (in steel kegs)

	Per. Lb.
1 ton lots, 100 lbs. net weight	12c
500 lb. and less than 1 ton lots	12¾c
Less than 500 lb. lots	14c

Dutch Boy Dry Red Lead and Litharge (in steel kegs)

1 ton lots, 100 lb. kegs net weight	12½c
500 lb. and less than 1 ton lots	13½c
Less than 500 lb. lots	14½c

Red Lead in Oil (in steel kegs)

1 ton lots, 100 lbs. net weight	13½c
500 lb. and less than 1 ton lots	14c
Less than 500 lb. lots	14½c

Note—Accessibility and conditions cause wide variance of costs.

Patent Chimneys—

6-inch	$1.00 lineal foot
8-inch	1.50 lineal foot
10-inch	1.85 lineal foot
12-inch	2.10 lineal foot

Pipe Casings — 14" long (average), $5.00 each.

Plastering—Interior—

	Yard
1 coat, brown mortar only, wood lath	$0.40
2 coats, lime mortar hard finish, wood lath	.52
2 coats, hard wall plaster, wood lath	.55
3 coats, metal lath and plaster	1.00
Keene cement on metal lath	1.25
Ceilings with ¾ hot roll channels metal lath	.67
Ceilings with ¾ hot roll channels metal lath plastered	1.40
Shingle partition ¾ channel lath 1 side	.62
Single partition ¾ channel lath 2 sides 2 inches thick	2.20
4-inch double partition ¾ channel lath 2 sides	1.30
4-inch double partition ¾ channel lath 2 sides plastered	2.45

Plastering—Exterior—

	Yard
2 coats cement finish, brick or concrete wall	$1.00
2 coats Atlas cement, brick or concrete wall	1.25
3 coats cement finish No. 18 gauge wire mesh	1.75
3 coats Atlas finish No. 18 gauge wire mesh	2.05

Wood lath, $6.00 per 1000.

2.5-lb. metal lath (dipped)	.17
2.5-lb. metal lath (galvanized)	.20
3.4-lb. metal lath (dipped)	.22
3.4-lb. metal lath (galvanized)	.27

¾-inch hot roll channels, $45 per ton.
Hardwall plaster, $15.40 ton; $12.95 in paper sacks (rebate 15c sack).
Finish plaster, $16.40 ton; in paper sacks, $13.85 (rebate 10c sack).
Dealer's commission, $1.00 off above quotations.
Hydrate Lime, $19.50 ton.
Lime, f.o.b. warehouse, $2.25 bbl.; cars, $2.15
Lime, bulk (ton 2000 lbs.), $16.00 ton.
Wall Board 5 ply, $43.00 per M.

Composition Stucco—$1.60 to 2.00 per sq. yard (applied).

Plumbing—
From $60.00 per fixture up, according to grade, quantity and runs.

Roofing—
"Standard" tar and gravel, $5.25 per square for 30 squares or over.
Less than 30 squares, $5.50 per sq.
Tile, $19.00 to $35.00 per square.
Redwood Shingles, $11.00 per square in place.
Cedar Shingles, $10.50 sq. in place.
Recoat, with Gravel, $3.00 per sq.

Sheet Metal—
Windows—Metal, $1.85 a sq. foot.
Fire doors (average), including hardware, $2.15 per sq. foot.

Skylights—
Copper, $1.35 sq. ft. (not glazed).
Galvanized iron, 30c sq. ft. (not glazed).

Stone—
Granite, average, $6.00 sq. foot in place.
Sandstone, average Blue, $3.50; Boise, $2.60 sq. ft. in place.
Indiana Limestone, $2.60 per sq. ft. in place.

Store Fronts—
Copper sash bars for store fronts, corner, center and around sides, will average 75c per lineal foot.
Note—Consult with agents.

Steel Structural—$97.50 per ton (erected). This quotation is an average for comparatively small quantities
Light truss work higher; plain beam and column work in large quantities, less.
Cost of steel for average building (erected), $93.00 per ton.

Reinforcing—
Base price for car load lots, $2.75 100 lbs., f.o.b. cars.
Average cost to install, $23 per ton.

Steel Sash—
All makes, from S. F. stock, 20c to 35c per square foot.
All makes, plant shipment, 22c to 35c per square foot.
(Includes mullions and hardware.)

Tile—White glazed, 75c per foot, laid.
White floor, 75c per foot, laid.
Colored floor tile, $1.00 per ft. laid.
Promenade tile, 80c per sq. ft., laid.

1929 WAGE SCHEDULES FOR SAN FRANCISCO BUILDING TRADES

EFFECTIVE APRIL 1

Craft	Journeymen Mechanics
Asbestos workers	$ 8.00
Bricklayers	11.00
Bricklayers' hodcarriers	7.00
Cabinet workers, (shop)	7.50
Cabinet workers, (outside)	9.00
Carpenters	9.00
Cement finishers	9.00
Electric workers	9.00
Electrical fixture hangers	8.00
Elevator constructors	10.00
Elevator helpers	7.00
Engineers, portable and hoisting	9.00
Glass workers	8.50
Hardwood floormen	9.00
Housemovers	8.00
Housesmiths, arch. iron, skilled all branches	9.00
Housesmiths, arch. iron, not skilled all branches	8.00
Housesmiths, reinforced concrete, or rodmen	9.00
Iron workers (bridge & structural) including engineers	11.00
Laborers, building (6-day week)	5.50
Lathers, channel iron	10.00
*Lathers, all other	8.50
Marble setters	10.00
Marble helpers	6.00
Marble cutters and copers	8.00
Marble bed rubbers	7.50
Marble polishers and finishers	7.00
Millmen, planing mill department	7.00
Millmen, sash and door	6.00
Millwrights	8.00
Model makers	10.00
Model casters	9.00
Mosaic and Terrazzo workers	9.00
Mosaic and Terrazzo helpers	6.00
Painters	9.00
Painters, varnishers and polishers (shop)	7.50
Painters, varnishers and polishers (outside)	9.00
Pile drivers and wharf builders	9.00
Pile drivers engineers	10.00
Plasterers	11.00
Plasterers' hodcarriers	7.50
Plumbers	10.00
Roofers, composition	8.00
Roofers, all others	8.00
Sheet metal workers	9.00
Sprinkler fitters	10.00
Steam fitters	10.00
Stair builders	9.00
Stone cutters, soft and granite	8.50
Stone setters, soft and granite	9.00
Stone carvers	8.50
Stone derrickmen	9.00
Tile setters	10.00
Tile helpers	6.00
Auto truck drivers, less than 2500 lbs.	5.50
Auto truck drivers, 2500 to 4500 lbs.	6.00
Auto truck drivers, 4500 to 6500 lbs.	6.50
Auto truck drivers, 6500 lbs. and over	7.00
General teamsters, 1 horse	5.50
General teamsters, 2 horses	6.00
General teamsters, 4 horses	6.50
Plow teamsters, 4 horses	6.50
Scraper teamsters, 2 horses	6.00
Scraper teamsters, 4 horses	6.00

*On wood lath if piece rates are paid they shall be not less than such an amount as will guarantee, on an average day's production of 1600 lath, the day wage set forth.

Eight hours shall constitute a day's work for all Crafts except as otherwise noted.

Plasterer's hodcarriers, bricklayers' hodcarriers, roofers, laborers, and engineers, portable and hoisting, shall start 15 minutes before other workmen, both at morning and noon.

Five and one-half days, consisting of eight hours on Monday to Friday inclusive, and four hours on Saturday forenoon shall constitute a week's work.

Overtime shall be paid as follows: For the first four hours after the first eight hours, time and one-half. All time thereafter shall be paid double time. Saturday afternoon (except laborers), Sundays from 12 midnight Saturday, and Holidays from 12 midnight of the preceding day shall be paid double time. On Saturday afternoon laborers, building, shall be paid straight time.

Where two shifts are worked in any twenty-four hours shift time shall be straight time. Where three shifts are worked, eight hours pay shall be paid for seven hours on the second and third shifts.

All work shall regularly be performed between the hours of 8 A. M. and 5 P. M., provided, that in emergencies or where premises cannot be vacated for work by mechanics until the close of business, men then reporting for work shall work at straight time; but any work performed after midnight shall be paid time and one-half except on Saturday afternoons, Sundays, and holidays, when double time shall be paid.

Recognized holidays to be New Year's Day, Decoration Day, Fourth of July, Labor Day, Admission Day, Thanksgiving Day and Christmas Day.

Men ordered to report for work, for whom no employment is provided, shall be entitled to two hours pay.

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WHO'S WHO AMONG CONTRACTORS

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ACOUSTIC CORRECTIONS
Johns-Manville Company, all principal Coast cities.
R. Guastavino Co., represented by Albert B. Mann, Engineer, 417 Crocker Bldg., San Francisco.
"Acousti-Celotex," Western Asbestos Magnesia Co., 25 South Park, San Francisco.
American Hair & Felt Co., 1615 Ditman St., Los Angeles.

AIR COMPRESSORS
Dayton, sold by Simonds Machinery Co., 816 Folsom Street, San Francisco; 520 East 4th Street, Los Angeles.

ACOUSTIC DEADENING
American Hair & Felt Co., 1615 Ditman St., Los Angeles.

ART METAL
Federal Ornamental Iron and Bronze Co., 16th St., and San Bruno Ave., San Francisco.
Michel & Pfeffer Iron Works, 1415 Harrison Street, San Francisco.

ARCHITECTURAL ENCAUSTIC TILE
Mangrum-Holbrook Co., Inc., 1235 Mission Street, San Francisco.

ARCHITECTURAL BRONZE
Elevator Supplies Company, Inc., Hoboken, N. J.; 186 Fifth Street, San Francisco; 1120 S. Hope Street, Los Angeles.
Zouri Drawn Metals Company, Chicago Heights, Illinois. (Zouri Company of California, 1208 Howard St., San Francisco.

ARCHITECTURAL TERRA COTTA
N. Clark & Sons, 116 Natoma Street, San Francisco.
Gladding, McBean & Co., 660 Market St., San Francisco; 621 S. Hope St., Los Angeles; 1500 First Ave. South, Seattle; 454 Everett St., Portland; 15th and Dock Sts., Tacoma, and 22nd and Market Sts., Oakland
W. S. Dickey Clay Mfg. Co., San Francisco and Oakland.

ASBESTOS MATERIALS
Johns-Manville, Inc., of California, 159 Montgomery St., San Francisco. Coast Factory at Pittsburg, Calif.
Western Asbestos Magnesia Company, 25 South Park, San Francisco.
Jones Bros. Asbestos Supply Co., Inc., 500 Second St., San Francisco.

ASPHALT ROOFING
El Rey Products Company, 1633 San Pedro St., Los Angeles; 960 Seventh St., San Francisco; 65 Columbia St., Seattle; 850 E. Taylor St., Portland.
The Paraffine Companies, Inc., San Francisco, Los Angeles, Portland and Seattle.

AUTOMATIC THERMOSTAT CONTROLS
Majestic Electric Appliance Company, 690 Folsom Street, San Francisco.

BEDS—WALL—CONCEALED, ETC.
Marshall & Stearns Co., Phelan Bldg., San Francisco.

BLACKBOARDS
C. F. Weber & Co., 601 Mission St., San Francisco, Los Angeles and Reno, Nevada.

BOILERS
Kewanee Boiler Co., 635 Mission St., San Francisco.
Kewanee Water Supply System, Simonds Machinery Co., 816 Folsom St., San Francisco.

BONDS FOR CONTRACTORS
Bonding Company of America, Kohl Bldg., San Francisco.
Globe Indemnity Co., 444 California St., San Francisco.
Fidelity & Casualty Co. of New York, Balfour Bldg., San Francisco.
Standard Accident Insurance Company, California Commercial Union Building, San Francisco.

BRASS GOODS, CASTINGS, ETC.
H. Mueller Manufacturing Co., 1072 Howard St., San Francisco.

BRICK—FACE, COMMON, ENAMEL, GLAZED
Gladding, McBean & Co., 660 Market St., San Francisco; 621 S. Hope St., Los Angeles; 1600 First Ave. South, Seattle; 454 Everett St., Portland; 15th and Dock Sts., Tacoma, and 22nd and Market Sts., Oakland.
N. Clark & Sons, 116 Natoma Street, San Francisco.
W. S. Dickey Clay Mfg. Co., San Francisco and Oakland.
Port Costa Brick Works, 6th and Berry Sts., San Francisco.
McNear Brick Company, Monadnock Bldg., San Francisco.
Richmond Pressed Brick Co., Sharon Bldg., San Francisco. Plant at Richmond, Cal.
Cannon & Co., Sacramento; 517 Call Bldg., San Francisco; Builders Exchange Bldg., Oakland.

BRICK AND CEMENT COATING
The Paraffine Companies, Inc., 475 Brannan St., San Francisco.

BUILT-IN FURNITURE
Built-in Fixture Company, 2608 San Pablo Ave., near Dwight Way, Berkeley, and Hoosier Store, Pacific Bldg., San Francisco.

BUILDERS' HARDWARE
"Corbin" hardware, sold by Palace Hardware Company, 581 Market St., San Francisco.
Richards-Wilcox Mfg. Co., Aurora, Ill.; represented by Ewing-Lewis Company, Hunter-Dulin Bldg., San Francisco, and 408 S. Spring Street, Los Angeles.

BUILDING PAPERS
El Rey Products Company, 1633 N. San Pablo Street, Los Angeles; 960 Seventh Street, San Francisco; 65 Columbia Street, Seattle; 850 E. Taylor St., Portland, Ore.
The Paraffine Companies, Inc., San Francisco, Los Angeles, Portland and Seattle.
Pacific Materials Co., 444 Market St., San Francisco.

CEMENT
Atlas White, manufactured by The Atlas Portland Cement Company, 25 Broadway, New York.
Hydro-plastic cement, manufactured by Southwestern Portland Cement Company, 356 S. Spring St., Los Angeles
Monolith Plastic Waterproof Cement Company, manufactured by Monolith Portland Cement Company, Bartlett Building, Los Angeles; 741 Monadnock Bldg., San Francisco; 1207 Public Service Bldg., Portland.
Pacific Portland Cement Co., Hunter-Dulin Bldg., San Francisco, also Portland, Ore., Los Angeles and San Jose, Calif
Santa Cruz Portland Cement Company, Crocker Building, San Francisco.

CEMENT EXTERIOR WATERPROOF PAINT
Bass-Heuter Paint Company, San Francisco, Los Angeles, Portland, Seattle.
The Paraffine Companies, Inc., San Francisco, Los Angeles, Portland and Seattle.

CEMENT TESTS—CHEMICAL ENGINEERS
Robert W. Hunt Co., 251 Kearny Street, San Francisco.

CLAY PRODUCTS
N. Clark Sons, 116 Natoma Street, San Francisco.
Cannon & Co., Sacramento, Cal.; 517 Call Bldg., San Francisco.
W. S. Dickey Clay Mfg. Co., San Francisco and Oakland.
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United Materials Co., Sharon Bldg., San Francisco.

COMPOSITION ROOFING
El Rey Products Company, 1633 San Pedro St., Los Angeles; 960 Seventh St., San Francisco; 65 Columbia St., Seattle; 850 E. Taylor St., Portland.
The Paraffine Companies, Inc., San Francisco, Los Angeles, Portland and Seattle.

CONCRETE OR CEMENT HARDENER
Gunn, Carle & Co., Inc., 444 Market St., San Francisco.

CONCRETE REINFORCING
Soule Steel Company, Rialto Building, San Francisco.
Gunn, Carle & Co., Inc., 444 Market St., San Francisco.
Clinton Welded Wire Fabric, Wickwire Spencer Steel Corporation, 144 Townsend St., San Francisco.
Pacific Coast Steel Company, Hunter-Dulin Bldg., San Francisco.
National Steel Fabric Company, 274 Brannan St., San Francisco, and 1736 Naud St., Los Angeles.

CONTRACTORS—GENERAL—
Adam-Arras Co., 185 Stevenson St., San Francisco.
F. R. Siegrist Co., 604 Williams Bldg., San Francisco.
Spivock & Spivock, Hobart Building, San Francisco, and 412 Water St., Oakland.
Vogt & Davidson, Inc., 185 Stevenson St., San Francisco, and Builders Exchange, Oakland.
K. E. Parker Company, Inc., 135 South Park, San Francisco.
Barrett & Hilp, 918 Harrison Street, San Francisco.
Lindgren-Swinerton, Inc., Standard Oil Bldg., San Francisco.
R. W. Littlefield, 327 17th Street, Oakland.
Dinwiddie Construction Co., Crocker Bldg., San Francisco.
Clinton Construction Company, 923 Folsom St., San Francisco.
Monson Bros., 475 Sixth St., San Francisco.
McLeran & Co., R., Hearst Bldg., San Francisco.
Chas. D. Vezey & Sons, Builders Exchange Bldg., Oakland.
Jacks & Irvine, Call Bldg., San Francisco.
Industrial Construction Company, 815 Bryant Street, San Francisco.
Anderson & Ringrose, 320 Market Street, San Francisco.
G. P. W. Jensen, 320 Market Street, San Francisco.

CORK TILE
Bonded Floors Company, Inc., D. N. & E. Walter & Co., San Francisco, and Broadway Department Store, Los Angeles.
Van Fleet-Freear Company, 557 Howard St., San Francisco, and 420 S. Spring St., Los Angeles.

CRIBBING FOR RETAINING WALLS
Massey Concrete Products Corporation, Colton California and Spokane, Washington.

CRUSHED ROCK
Coast Rock & Gravel Co., Hunter-Dulin Bldg., San Francisco.

DAMP-PROOFING AND WATER-PROOFING
Western Asbestos Magnesia Company, 25 South Park, San Francisco.
The Paraffine Companies, Inc., San Francisco, Los Angeles, Portland and Seattle.
West Coast Kalsomine Co., 710 Rives-Strong Bldg., Los Angeles, and P. O. Box C, West Berkeley.

DEADENING MATERIAL
"Insulite" Western Asbestos Magnesia Co., 25 South Park, San Francisco.
The Paraffine Companies, Inc., San Francisco, Los Angeles. Portland and Seattle.
American Hair & Felt Co., 1615 Ditman St., Los Angeles.

DOOR CHECKS—CONCEALED
The Condor Company, 58 Sutter St., San Francisco.

DOOR CLOSERS
Norton door closer, sold by Nissen-Currier Co., 265 Minna St., San Francisco, and 302 Colo Bldg., Los Angeles.

DOOR HANGERS
Richards-Wilcox Mfg. Co., The Ewing-Lewis Co., Hunter-Dulin Bldg., San Francisco.

DOORS—FIREPROOF
Detroit Steel Products Company, 251 Kearny St., San Francisco.
Kinnear Mfg. Co., represented in San Francisco by Pacific Materials Co., 444 Market Street.

DOORS—FREIGHT ELEVATOR
The Peelle Co., Brooklyn, N. Y., represented by Graham & Norton Company, 213 Minna St., San Francisco.

DOORS—HOLLOW METAL
Fire Protection Products Co., 1101 Sixteenth St., San Francisco.
Dahlstrom Metallic Door Co., Jamestown, N. Y., Coast plant, 3350 E. Slauson Ave., Los Angeles.
Forderer Cornice Works, Potrero Ave., San Francisco.

DOORS—ROLLING
Kinnear Rolling Steel Doors, sold by Pacific Materials Co., 444 Market St., San Francisco.
Jas. G. Wilson Corporation, 605 Market St., San Francisco.

DRAIN PIPE AND FITTINGS
"Corrosiron" Acid Proof, manufactured by Pacific Foundry Co., Harrison and 18th Sts., San Francisco.

DRAPERIES AND WINDOW SHADES
D. N. & E. Walter & Co., 562 Mission Street, San Francisco.

DRINKING FOUNTAINS
Haws Sanitary Drinking Faucet Co., 1808 Harmon St., Berkeley, and C. F. Weber & Co., San Francisco and Los Angeles.
Standard-Pacific Plumbing Fixtures, 349 Sutter St., San Francisco; 919 W. 7th St., Los Angeles; 1301 5th Ave., Seattle, Wash.; 48 5th St., Portland, Ore.

DUMB WAITERS
Spencer Elevator Company, 166 7th St., San Francisco.
Elevator Supplies Co., Inc., Hoboken, N. J. San Francisco office, 186 Fifth St.

ELECTRICAL CONTRACTORS
Butte Electrical Equipment Company, 2014 Folsom St., San Francisco.

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WHO'S WHO AMONG CONTRACTORS

ALPHABETICAL LIST OF ADVERTISERS ON PAGE 125

Charles A. Langlais, 472 Tebama St., San Francisco.
Ne Page, McKenny Co., 589 Howard St., San Francisco, Oakland, Los Angeles, Seattle.
H. C. Read & Co., 389 Clementina St., San Francisco.

ENGINEERS—CONSULTING, ELECTRICAL, MECHANICAL
Hunter & Hudson, 41 Sutter Street, San Francisco.
Charles T. Phillips Company, Bank of Italy Bldg., San Francisco, and Roberts Bldg., Los Angeles.

ELECTRIC AIR AND WATER HEATERS
Majestic Electric Appliance Company, 690 Folsom Street, San Francisco.
Wesix Heater Company, Rialto Building, San Francisco.
Sandoval Sales Company, 415 Jessie Street, San Francisco.
Weir Electric Appliance Company, 26th and Adeline Streets, Oakland.

ELECTRIC REFRIGERATION
General Electric Refrigerator, George Belsey Company, Los Angeles, Distributor, Stores in Los Angeles, Pasadena, Glendale, Hollywood, Santa Monica and Monrovia; L. H. Bennett, Northern California Distributor, 2112 Broadway, Oakland; 318 Stockton St., San Francisco.
Wayne Home Equipment Company, Fort Wayne, Indiana, represented by Hill and Stoops, 4214 Broadway, Oakland, Calif.

ELECTRICAL SUPPLIES AND EQUIPMENT
The Frink Company, 10th Ave. at 24th St., New York; 77 O'Farrell St., San Francisco
Drendell Electrical & Mfg. Co., 1345 Howard St., San Francisco.
Frank Adam Electric Company, 340 Fremont St., San Francisco, and 1127 Wall Street, Los Angeles; general offices, St. Louis, Mo.
Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pa., and First National Bank Bldg., San Francisco.
The Frink Company, 10th Ave. at 24th St., New York; 77 O'Farrell St., San Francisco
Sterling Bronze Co., Inc., 18 East 40th St., New York.

ELECTROLIERS
Northern Street Lighting Company, 389 Clementina Street, San Francisco.

ELEVATOR ENTRANCE DOORS
Dahlstrom Metallic Door Company, Jamestown, N. Y., Pacific Coast plant, 3350 East Slauson Ave., Los Angeles.

ELEVATORS—PASSENGER AND FREIGHT
Otis Elevator Company, Stockton and North Point, San Francisco.
Spencer Elevator Company, 166 Seventh St., San Francisco.
Westinghouse Electric and Manufacturing Company, First National Bank Bldg., San Francisco, general offices and works, Pittsburgh, Pa.

ELEVATOR SIGNALS, DOOR EQUIPMENT
Elevator Supplies Co., Inc., Hoboken, N. J.; San Francisco office, 186 Fifth St.
The Peelle Co., Brooklyn, N. Y., represented by Graham & Norton Company, 213 Minna St., San Francisco.
Richards-Wilcox Mfg. Co., represented by Ewing-Lewis Company, Hunter-Dulin Bldg., San Francisco; 408 S. Spring Street, Los Angeles.

ENAMELS
Gold Seal Enamel—Bass-Heuter Paint Company, San Francisco, Los Angeles, Portland, Seattle.

EXIT DEVICES
Von Duprin, manufactured by Vonnegut Hardare Company, Indianapolis; sold by D. A. Pancoast Co., 605 Market St., San Francisco.

FENCES—WIRE AND IRON
Michel & Pfeffer Iron Works, Harrison and Tenth Sts., San Francisco.

FIRE EXTINGUGISHING APPARATUS
"Lux" System, represented by Hough and Erbert, Inc., 519 Robert Dollar Building, San Francisco.

FIRE DETECTING APPARATUS
"Derby" and "Selex" Systems, represented by Hough and Erbert, Inc., 519 Robert Dollar Building, San Francisco.

FIRE ESCAPES
Michel & Pfeffer Iron Works, 1415 Harrison St., San Francisco.
Palm Iron & Bridge Works, Sacramento.
Western Iron Works, 141 Beale St., San Francisco.

FIRE SPRINKLERS—AUTOMATIC
Fire Protection Engineering Co., 407 Exchange Building, 369 Pine Street, San Francisco.
Grinnell Company of the Pacific, Fifth and Brannan Sts., San Francisco.

FIXTURES—BANK, OFFICE, STORE, ETC.
Home Manufacturing Company, 552 Brannan St., San Francisco.
Mullen Manufacturing Co., 64 Rausch St., San Francisco.
Pacific Manufacturing Company, San Francisco, Los Angeles, Oakland and Santa Clara.
The Fink & Schindler Co., 228 13th St., San Francisco.

FLOORS—CORK, LINOLEUM, ETC.
Bonded Floors Company, Inc., D. N. & E. Walter & Co., San Francisco, and Broadway Department Store, Los Angeles.
The Paraffine Companies, Inc., San Francisco, Los Angeles, Oakland, Portland, Seattle.

FLOORS—REDWOOD BLOCK
Redwood Block Floor Company, Bryant at 18th St., San Francisco.
Pacific Redwood Floor Company, 311 California St., San Francisco, and 420 Grant Bldg., Los Angeles.

FLOOR CLIPS
Bull Dog Floor Clip Co., 557 Market St., San Francisco and Hibernian Bldg., Los Angeles.

FLOORS—HARDWOOD
G. H. Brown Hardwood Lumber Company, 47th Avenue and East 12th Street, Oakland.
Inlaid Floor Company, 600 Alameda Street, San Francisco and 4067 Watts Street, Emeryville, Oakland.
"Perfection" Brand Oak Flooring, Arkansas Oak Flooring Co., Pine Bluff, Arkansas.
J. E. Higgins Lumber Company, San Francisco.
White Brothers, 5th and Brannan streets, San Francisco; 500 High Street, Oakland.
Cellized Oak Flooring, Inc., Memphis, Tenn. Represented by Geo. H. Brown Hardwood Company, Oakland.

FREIGHT ELEVATOR DOORS
The Peelle Co., Brooklyn, N. Y., represented by Graham & Norton Company, 213 Minna St., San Francisco.

FURNACES—GAS
Payne Furnace and Supply Co., Los Angeles (see advertisement on page 22 for nearest representative).

FURNITURE—OFFICE, SCHOOL, CHURCH, THEATER
The Fink & Schindler Co., Inc., 218-68 13th St., San Francisco.
Home Mfg. Co., 652 Brannan Street, San Francisco.
Mullen Mfg. Co., 64 Rausch Street, San Francisco.
C. F. Weber & Co., San Francisco, Los Angeles, and Phoenix, Ariz.

GENERAL CONTRACTORS
Spivock & Spivock, Hobart Building, San Francisco.

GLASS
Cobbledick-Kibbe Glass Co., 666 Howard St., San Francisco.

GRAVEL AND SAND
Coast Rock & Gravel Co., Hunter-Dulin Bldg., San Francisco.
Del Monte White Sand, Del Monte Properties Co., Crocker Bldg., San Francisco.

GYMNASIUM EQUIPMENT—LOCKERS, ETC.
Ellery Arms Co., 583 Market St., San Francisco.

HANGERS—RELIANCE—
Graham & Norton Company, 213 Minna Street, San Francisco.

HARDWARE
Vonnegut hardware, sold by D. A. Pancoast Company, 605 Market St., San Francisco.
Palace Hardware Company, 581 Market St., San Francisco.
Richards-Wilcox Mfg. Co., represented by Ewing-Lewis Company, Hunter-Dulin Bldg., San Francisco; 408 S. Spring Street, Los Angeles.

HARDWOOD LUMBER
J. E. Higgins Lumber Co., San Francisco.
G. H. Brown Hardwood Lumber Co., 47th Ave. at E. 12th Street, Oakland.
White Brothers, 5th and Brannan streets, San Francisco; 500 High Street, Oakland.

HEATING—COAL FURNACE
Montague Range & Furnace Company, 376 Sixth St., San Francisco.

HEATING—ELECTRIC
Wesix Electric Air Heaters, manufactured and distributed by Wesix Heater Company, Rialto Building, San Francisco.
Apex Air and Water Electric Heaters, Sandoval Sales Company, 115 Jessie Street, San Francisco.
Majestic Electric Appliance Co. (bathroom heater), 690 Folsom St., San Francisco.
Weir Electric Appliance Company, 26th and Adeline Streets, Oakland.

HEATING—GAS
Payne Furnace and Supply Co., Los Angeles (see advertisement on page 22 for nearest representative).

HEATING—STEAM
Warren Webster & Company, Sharon Bldg., San Francisco, and 306 Crocker St., Los Angeles.

HEATING CONTRACTORS
Alex Coleman, 706 Ellis St., San Francisco.
Gilley-Schmid Company, 198 Otis St., San Francisco.
Hateley & Hateley, Mitau Bldg., Sacramento.
Mangrum & Otter, 827-831 Mission St., San Francisco.
W. H. Picard, 5656 College Ave., Oakland.
Luppen & Hawley, 3126-J St., Sacramento.
William F. Wilson Co., 240 Fourth St., San Francisco.
James A. Nelson, Inc., Howard and Tenth Sts., San Francisco.
Scott Company, 243 Minna St., San Francisco.
Geo. A. Schuster, 4712 Grove St., Oakland.
Herman Lawson, 465 Tehama Street, San Francisco.

HEATING EQUIPMENT
E. A. Cornely, Inc., 1452 Bush Street, San Francisco.
Illinois Engineering Co., 417 Market St., San Francisco.
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James A. Nelson, Inc., Howard and Tenth Sts., San Francisco.
B. F. Sturtevant Co., Monadnock Bldg., San Francisco; Los Angeles, Portland, Seattle.

HOLLOW BUILDING TILE (Burned Clay)
Cannon & Co., plant at Sacramento; Call Bldg., San Francisco.
N. Clark & Sons, 112-116 Natoma Street, San Francisco; works, West Alameda, California.
Gladding, McBean & Co., 660 Market St., San Francisco; 621 S. Hope St., Los Angeles; 1500 First Ave. South, Seattle; 454 Everett St., Portland; 15th and Dock Sts., Tacoma, and 22nd and Market Sts., Oakland.
W. S. Dickey Clay Mfg. Co., San Francisco and Oakland.

HOSE
The American Rubber Mfg. Co., Park Ave. and Watts St., Oakland, Calif.

HOSE RACKS AND REELS
American Rubber Mfg. Co., San Francisco, Oakland, Los Angeles and Portland, Ore.

HOSPITAL SIGNAL SYSTEMS
Chicago Signal Co., represented by Garnett Young & Co., 390 Fourth St., San Francisco.

INCINERATORS
Kerner Incinerator Company, 450 Clementina Street, San Francisco.
The Goder, sold by M. E. Hammond, Mezzanine, Pacific Bldg., San Francisco.
Kewanee Boiler Co., 635 Mission Street, San Francisco.

INDUSTRIAL LIGHTING EQUIPMENT
Westinghouse Electric and Mfg. Co., East Pittsburgh, Pa., and First National Bank Bldg., San Francisco.

INSPECTIONS AND TESTS
Robert W. Hunt Co., 251 Kearny Street, San Francisco.

INSULATION
"Insulex" manufactured by Pacific Portland Cement Co., Hunter-Dulin Bldg., San Francisco, & 1200 Chapman Bldg., Los Angeles.
Western Asbestos Magnesia Co., 25 South Park, San Francisco.
American Hair and Felt Company, 1615 N. Ditman St., Los Angeles.

INTERIOR DECORATING
George M. Hyde Co., Inc., 1366 Sutter St., San Francisco.

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"THOUSANDS OF DOLLARS SAVED"

"Thousands of Dollars saved with Old Mission plastic waterproof Portland cement" is the title of an instructive 4-page bulletin issued by the advertising department of the Pacific Portand Cement Company.

It shows some interesting industrial buildings where the use of Old Mission plastic waterproof Portland cement resulted in walls so smooth, that no further finishing or stucco work was necessary.

As the bulletin explains, this is a case where beauty is not skin deep. To quote: "The smoothness of the wall surface is the natural result of the homogeneous density and remarkable workability of concrete made with Old Mission plastic waterproof Portland cement."

Among the interesting illustrations is the new Dufwin theater, Oakland, where Old Mission plastic waterproof Portland cement permitted waterproofing of the basement against a heavy hydraulic head without membrane waterproofing.

NEW DISTRIBUTOR IS NAMED

Announcement is made of the retirement of A. E. Menke as western sales representative for the Tuttle & Bailey Mfg. Co., of New York and the appointment of Holbrook, Merrill & Stetson, 903 North Main street, Los Angeles, as exclusive Southern California distributors of the following Tuttle and Bailey products: Grilles, registers and cold air faces for heating and ventilating; also a complete line of Ferrocraft cast grilles.

Holbrook, Merrill & Stetson have opened a special Tuttle & Bailey service department under the management of J. L. McLaughlin and will carry in stock a complete line of Tuttle & Bailey furnace registers.

REPRESENTS TILE COMPANY

A. J. Moore, for a number of years Northern California distributor for the McCray Refrigerator Company, has resigned to accept a position as California State distributor for the Porcelain Tile Company of Chicago. Mr. Moore will have offices and an exhibit at the Building Material and Machinery Exhibit, 557 Market street, San Francisco. The Chicago company with which Mr. Moore is identified, manufactures a standard wall tile with a metal background and enamel face. Almost any color may be had in these tile, the cost of which is said to be less than other wall tile.

Mr. Moore is well known by the building trade throughout Northern California because of his long association with the McCray Company.

BOOK ON EARTHQUAKE DATA

The effect of earthquakes on various types of structures has been widely discussed in California in the last three years. Experience has demonstrated that the earthquake is a phenomenon which must be taken into account in planning construction work and in eliminating as far possible its destructive forces.

Manufacturers of burnt clay products in California, realizing the importance of this subject have undertaken some extensive research into this subject, accumulating data on the behavior of various building materials in recent earthquakes, as well as securing from engineers who have specialized in studying the problem, a careful technical analysis of the fundamental engineering principles involved, and to prepare a book on the subject.

PASSING OF A. F. LINDGREN

Alex F. Lindgren, member of the firm of Lindgren-Swinerton, Inc., San Francisco, and one of the best known building contractors on the Pacific Coast, died at his home in San Francisco July 28, after a long illness. He was born in Sweden 65 years ago and came to the United States at the age of 14, starting as a carpenter's helper in New York City. He embarked in the contracting business in San Francisco on a small scale in 1900. During his successful career his firm erected many of the most prominent buildings in San Francisco and other coast cities.

W. B. KYLE BRANCHES OUT

W. B. KYLE, former vice-president and general manager of McClintic-Marshall Company of California, has purchased from C. W. Ham and Wm. Koch one-third interest in the Modern Iron Works, Inc., and is now an executive officer of that corporation.

WHAT'S WHAT IN MATERIALS

WHO'S WHO AMONG CONTRACTORS

ALPHABETICAL LIST OF ADVERTISERS ON PAGE 125

KITCHEN EQUIPMENT
General Electric Refrigerator, L. H. Bennett, Rialto Building, San Francisco, and the George Belsey Company, Architects Building, Los Angeles.
James A. Nelson, Inc., Howard and Tenth Sts., San Francisco.
Mangrum Holbrook Company, 1235 Mission St., San Francisco.

LACQUERS
The Paraffine Companies, Inc., San Francisco, Los Angeles, Portland and Seattle.
Bass-Hueter Paint Company, San Francisco and all principal Coast cities.

LATHING MATERIAL—WIRE METAL, ETC.
Genfire Steel Co., Sheldon Bldg., San Francisco; Builders' Exchange, Oakland.
Pacific Materials Co., 444 Market Street, San Francisco.
Truscon Steel Co., Sharon Building, San Francisco.
National Steel Fabric Company, 274 Brannan St., San Francisco, and 1736 Naud St., Los Angeles.
Soule Steel Company, Rialto Building, San Francisco, and Los Angeles.

LAUNDRY MACHINERY AND EQUIPMENT
American Laundry Machinery Company, 921 Howard Street, San Francisco.
Troy Laundry Mach'y Co., Ltd., East Moline, Ill., and 951 Mission St., San Francisco.

LEATHER MATS
"Beatsall" Leather Mat Mfg. Co., 340 Sansome St., San Francisco.

LEATHER PANELS & WALL DECORATORS
Lackawanna Leather Co., represented by Gaylord Lee, 208 Fremont St., San Francisco.

LEATHER UPHOLSTERY
Lackawanna Leather Co., represented by Gaylord Lee, 208 Fremont St., San Francisco.

LIGHTING FIXTURES, OUTLETS, ETC.
Westinghouse Electric and Mfg. Co., First National Bank Bldg., San Francisco; general offices and works, Pittsburgh, Pa.
The Frink Company, 369 Lexington Avenue, New York, and principal Coast cities.
The Frink Company, 10th Ave. at 24th St., New York; 77 O'Farrell St., San Francisco
Sterling Bronze Co., Inc., 18 East 40th St., New York.

LIME PRODUCTS
United States Lime Products Corp., San Francisco, Los Angeles, Portland, Ore.

LINOLEUM
William Volker & Co., 631 Howard St., San Francisco, and 2301 E. 7th St., Los Angeles.
Bonded Floors Company, Inc., D. N. & E. Walter & Co., San Francisco, and Broadway Department Store, Los Angeles.
The Paraffine Companies, factory in Oakland; office, 475 Brannan Street, San Francisco.
W. & J. Sloane, 216 Sutter Street, San Francisco.
Van Fleet- Freear Company, 557 Howard St., San Francisco, and 420 S. Spring St., Los Angeles.

LUMBER
G. H. Brown Hardwood Company, 1044 47th Ave., Oakland.
Pacific Mfg. Co., San Francisco, Oakland, Los Angeles and Santa Clara.
Santa Fe Lumber Co., 16 California St., San Francisco.
J. E. Higgins Lumber Company, 423 Sixth St.. San Francisco.
Sunset Lumber Company, First and Oak Sts., Oakland.
White Brothers, 8th and Brannan Sts., San Francisco, and 500 High St., Oakland.

MAIL CHUTES
Cutler Mail Chute Co., represented by Price Building Specialties Co., 683 Howard St., San Francisco and Continental Building Specialties Co., 1216 Hibernian Bldg., Los Angeles.

MARBLE
American Marble Company, 25 Columbus Square, San Francisco.
Ray Cook Marble Company, foot of Powell St., Oakland.
Joseph Musto Sons-Keenan Co., 635 N. Point St., San Francisco.
Vermont Marble Co., Coast branches, San Francisco, Los Angeles and Tacoma.
Tompkins-Kiel Marble Company, 505 Fifth Ave., New York; also Chicago, Philadelphia and San Francisco.

MASONRY ANCHORS
Steelform Contracting Company, Monadnock Bldg., San Francisco; Edwards & Wildey Bldg., Los Angeles.

METAL COVERED DOORS
Fire Protection Products Co., 1101 Sixteenth St., San Francisco.
Forderer Cornice Works, Potrero Ave., San Francisco.
Dahlstrom Metallic Door Company, 3350 E. Slausen Avenue, Los Angeles.

MILLWORK
The Fink & Schindler Co., Inc., 218-68 13th St., San Francisco.
Pacific Mfg. Co., San Francisco, Los Angeles, Oakland and Santa Clara.
Sunset Lumber Company, First and Oak Streets, Oakland.
Lannom Bros. Mfg. Co., Fifth and Magnolia Sts., Oakland.
Atkinson Mill & Mfg. Co., 2985 Chapman Avenue, Oakland.
Chicago Lumber Company of Washington. 66th and 69th Aves and Spencer Street, Oakland.

MONEL METAL
"Inco" brand, distributed on the Pacific Coast by the Pacific Foundry Company, Harrison and 18th Streets, San Francisco, and Eagle Brass Foundry, Seattle, Wash.

OIL BURNERS
Quiet-May Automatic Oil Burner Company, 959 Natoma St., San Francisco.
Rayfield Automatic Oil Burner. Pacific Coast Distributors, E. A. Cornely, Inc., 1452 Bush St., San Francisco.
S. T. Johnson Company, 1337 Mission St., San Francisco; 940 Arlington St., Oakland; 1729 Front St., Sacramento, and 230 N. Sutter St., Stockton.
Vaughn-G. E. Witt Co., 4224-28 Hollis Street, Emeryville, Oakland.
W. S. Ray Mfg. Company, 170 Sutter St., San Francisco, and 2206 San Pablo Ave., Oakland.
Coen Company, 112 Market Street, San Francisco.
Wayne Home Equipment Company. Fort Wayne, Indiana, represented by Hill and Stoops, 4214 Broadway, Oakland, Calif.

ORNAMENTAL IRON AND BRONZE
Federal Ornamental Iron and Bronze Co., 16th St. and San Bruno Ave., San Francisco.
Michel & Pfeffer Iron Works, 1415 Harrison St., San Francisco.
Palm Iron & Bridge Works, Sacramento.

PAINTING, DECORATING, ETC.
The Tormey Co., 681 Geary St., San Francisco.
A. Quandt & Sons, 374 Guerrero Street, San Francisco.

PAINTS, OILS, ETC.
The Paraffine Companies, Inc., San Francisco, Los Angeles, Portland and Seattle.
Bass-Hueter Paint Company, San Francisco, Los Angeles, Portland, Seattle.
General Paint Company, Los Angeles, San Francisco, Oakland, Seattle, Spokane and Portland.

PANEL BOARDS
Drendell Electric & Mfg. Co., 1760 Howard St., San Francisco.
Frank Adam Electric Company, 340 Fremont St., San Francisco, and 1127 Wall Street, Los Angeles; general offices, St. Louis, Mo.
Westinghouse Elec. and Mfg. Co., First National Bank Bldg., San Francisco; general offices and works, Pittsburgh, Pa.

PANELS—HARDWOOD
White Brothers, 8th and Brannan Sts., San Francisco, and 500 High St., Oakland.

PANIC EXIT DEVICES
Von Duprin, manufactured by Vonnegut Hardware Company, Indianapolis; sold by D. A. Pancoast Co., 605 Market Street, San Francisco.

PARTITIONS—MOVABLE OFFICE
Pacific Mfg. Co., Monadnock Building, San Francisco; factory at Santa Clara.

PIPE—WROUGHT IRON
A. M. Byers Co., Pittsburgh, Pa., and Financial Center Bldg., Los Angeles.
Reading Iron Co., Reading, Pa., and Balboa Bldg., San Francisco.

PLASTER
"Empire," manufactured by Pacific Portland Cement Co., Hunter-Dulin Building, San Francisco, Portland, San Jose and Los Angeles.

PLASTER BASE
"Celotex," Western Asbestos Magnesia Co., 25 South Park, San Francisco.

PLASTER REINFORCING
Wickwire-Spencer Steel Company, Inc., 144 Townsend St., San Francisco.
National Steel Fabric Company, 274 Brannan St., San Francisco, and 1736 Naud St., Los Angeles.

PLASTERING CONTRACTORS
A. Knowles, Call Bldg., San Francisco.
MacGruer & Company, 266 Tehama Street, San Francisco, and Pacific Mutual Bldg., Los Angeles.

PLUMBING CONTRACTORS
Alex Coleman, 706 Ellis St., San Francisco.
Gilley-Schmid Company, 198 Otis St., San Francisco.
Hateley & Hateley, 1710 Tenth St., Sacramento.
Herman Lawson, 465 Tehama Street, San Francisco.
Luppen & Hawley, 906 7th St., Sacramento.
Scott Co., Inc., 243 Minna St., San Francisco.
Wm. F. Wilson Co., 240 Fourth Street, San Francisco.
Geo. A. Schuster, 4712 Grove St., Oakland.
W. H. Picard, 5656 College Ave., Oakland.

PLUMBING SUPPLY HOUSES
H. Mueller Manufacturing Company, 1072-76 Howard St., San Francisco.
Standard Pacific Fixtures, 349 Sutter St., San Francisco.
Clarence Drucker, manufacturers' representative, 307 Minna St., San Francisco.

PRESSED STEEL
Berger Manufacturing Co., 1120 Mission St., San Francisco.

PRESSURE REGULATORS
Vaughn-G. E. Witt Co., 4224-28 Hollis Street, Emeryville, Oakland.

PUMPING MACHINERY
Simonds Machinery Co., 816 Folsom Street, San Francisco; 520 East 4th Street, Los Angeles.

PUMPS—HAND OR POWER
Ocean Shore Iron Works, 658 Eighth St., San Francisco.
S. F. Bowser & Co., Inc., 425 Brannan St., San Francisco.

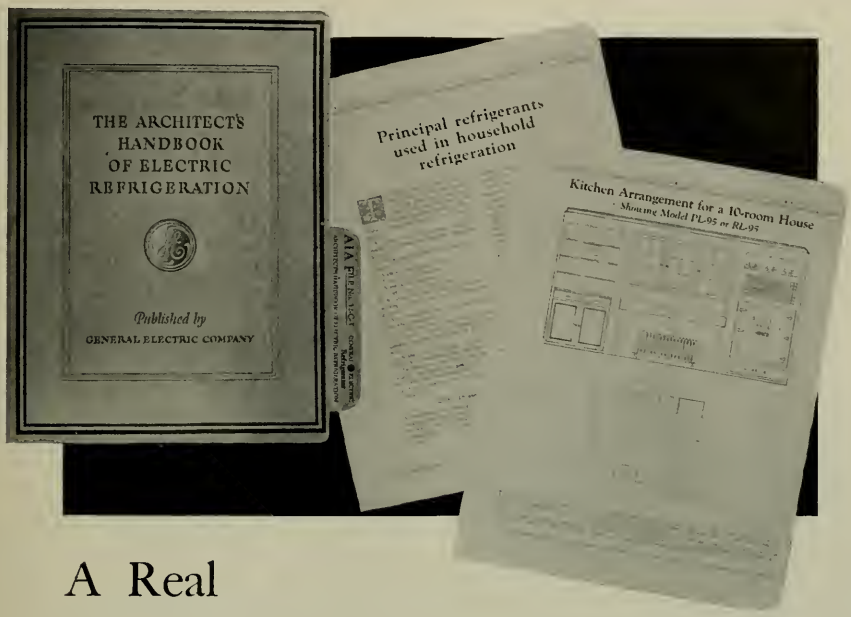
REFRIGERATORS
"General Electric," sold by the George Belsey Company, Architects' Building, Los Angeles; L. H. Bennett, Rialto Bldg., San Francisco.

REGISTERS
Payne Furnace and Supply Co., Los Angeles (see advertisement on page 22 for nearest representative).

REINFORCING STEEL
Soule Steel Company, Inc., Rialto Bldg., San Francisco, and Los Angeles.
Gunn, Carle & Co., Inc., 444 Market St., San Francisco.
National Steel Fabric Company, 274 Brannan St., San Francisco, and 1736 Naud St., Los Angeles.
Pacific Coast Steel Co., Hunter-Dulin Bldg., San Francisco.
United Alloy Steel Corporation, Canton, Ohio; Western Sales Office, Santa Fe Bldg., San Francisco.
Truscon Steel Company, Sharon Bldg., San Francisco.

ROCK AND GRAVEL
Coast Rock & Gravel Company, General office, Hunter-Dulin Building, 111 Sutter Street, San Francisco.

ROOF MATERIALS
El Rey Products Co., 1633 San Pablo St., Los Angeles; 960 7th St., San Francisco; 65 Columbia St., Seattle; 850 E. Taylor St., Portland.
Kraftile Company, office and factory at Niles; 55 New Montgomery Street, San Francisco.
"Melthoid" and "Ruberoid," also "Pabco" 10 and 20 year roofs, manufactured by the Paraffine Companies, Inc., San Francisco.
Gladding, McBean & Co., 660 Market St.,



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REFERENCE BOOK

Issued to give the architect useful information on one of today's most significant developments in the art of better living.

If you have not yet received your copy, it will be gladly sent.

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1434 Wilshire Blvd., Beverly Hills
510 E. Santa Monica Blvd., Santa Monica
6713 Hollywood Blvd., Hollywood
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WHO'S WHO
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The ARCHITECT AND ENGINEER

SEPTEMBER
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9-2

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Who's Who in this Issue

JOHN J. DONOVAN, architect of St. Mary's College, was born in North Andover, a small town in Massachusetts adjacent to Lawrence, March 25, 1876.

The death of his father necessitated seeking employment at the early age of fourteen and work for a boy in that section of Massachusetts meant employment in the textile mills of Lawrence. The hours of work were from 6:10 a. m. until 6 p. m., almost twelve hours. The wages were fifty cents a day which left very little for carfare or lunch, so this meant arising in the morning at 5 o'clock, leaving home at 5:30 and walking, winter and summer, for more than a half hour so as to be at work on time.

Later young Donovan worked in two of the shoe establishments at Haverill, Mass., which is about ten miles from North Andover. The hours were from 7:00 a. m. to 6:00 p. m. and it is to be noted that not only were the working conditions more healthful and considerably better than those of the textile mills, but the men, women and children employed in the shoe shops had the appearance of living much better than those in the mills. At the age of nineteen Mr. Donovan went to Boston and eventually got a chance to learn the brick layer's trade, serving three and a half years as an apprentice and improver.

Shortly after becoming a journeyman and then familiar with blue prints and drawings, Mr. Donovan was made the foreman of the brick work on the Bancroft Dormitory at Phillips Academy, Andover, Mass. This work was completed sometime the early part of 1899. Later he returned to Andover as a student. Afterwards four years were spent in hard study at the Massachusetts Institute of Technology.

Mr. Donovan here inserts a paragraph in his biography which is quoted verbatim for its good common sense.

"There is no desire to create halos or glorification, but I think I can say with assurance that when a young man sets out to obtain an education, the first thing he should think of is to be regular and the last thing to think of is how old he will be when he completes his preparation for a life's work, for if it is worth doing at all it is worth taking the time to do well. The reason for it all is that a half-baked professional man is far worse off than a well trained mechanic."

A post graduate course at the Brooklyn Polytechnic Institute, under Professor Haywood Spofford, who had been Associate Professor of Engineering at "Tech" was the finishing touch of Mr. Donovan's scholastic career.

On graduating from "Tech" in 1906, Mr. Donovan went to New York and became connected with Ernest Flagg, who was then beginning the work of building the noted Singer Tower. Later he became associated with the firm of Palmer, Hornbostel and Jones and came to California in 1911 to manage, handle and direct the building of the Oakland city hall. In the following year Mr. Donovan was appointed Architect for the City of Oakland under contract and assigned the work of the schools and the new auditorium, authorized by the bond issue of 1911.

Acceptance of this work led to the building of many other buildings and institutions in the West, such as schools in California and Nevada, revamping and building several buildings at the University of Santa Clara, the new College of Notre Dame at Belmont, the new St. Mary's College, Moraga, and several industrial and office buildings.

A noteworthy contribution to the profession is Mr. Donovan's book, "School Architecture," published by McMillan in 1921. It is used throughout the country by architects and educators and by a number of universities in their Teachers colleges as a text and reference book. It required three and a half years in preparation, a great deal of effort and many sacrifices.

Mr. Donovan has been a member of the California State Board of Architecture since 1919 and two years ago was its president. He is a member of the American Institute of Architects and one of its national committee on school building work.

Mr. Donovan's favorite sport is golf and lots of it.

GEORGE A. POSEY, Chief Engineer of the vehicular tube described in this issue, comes of California pioneer stock and was graduated from the University of California in the class of 1906. After graduation he was an instructor in civil engineering at his alma mater for a short time. He was next associated with Haviland and Tibbetts on reclamation, irrigation, sanitation and harbor work and was connected with the construction of the vehicular highway tunnel at Richmond, California. He was made Deputy County Surveyor of Alameda County in 1910, serving under P. A. Haviland for eleven years. Upon the death of Mr. Haviland in 1921 Mr. Posey was appointed County Surveyor of Alameda County, which position he has held continuously since that time. His work as Chief Engineer of the tube was in addition to his regular duties and for which he received no additional compensation other than the mark of appreciation paid by the Board of Supervisors in officially naming the tube after its engineer. In the last analysis this is a reward for services received by relatively few engineers during their lifetime. Mr. Posey is a member of the American Society of Civil Engineers.

MERTON C. COLLINS, writer of the article in this issue on the George A. Posey tube, was graduated from the University of California in Civil Engineering in 1912. He has had varied experience in engineering design and construction on railroad structures with the Northern Electric Railway; on highway bridges with the California Highway Commission, the U. S. Bureau of Public Roads and the Philippine Bureau of Public Works; on buildings with the City of San Francisco, Standard Oil Company of California and with MacDonald and Couchot; on port works and public structures with the Philippine Government and was connected with the George A. Posey tube throughout its design and construction, in charge of ventilation features and structural design as affected thereby. Mr. Collins is a member of the American Society of Civil Engineers.

A Beautiful Building Gains Charm From Correct Shading

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Shading the Modern Windows

Above: FINANCIAL CENTER BUILDING, *Oakland*

HE IS a fortunate architect who has not seen walls in whose planning he took pride defaced and marred through the necessity of drilling or chipping out holes around the window into which plugs could be inserted to hold shade brackets.

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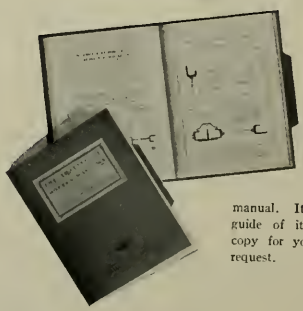

Modern methods of window shading are now included in a new Architects' Specification Book just issued. Details of technique with which the architect will wish to be familiar are fully covered in this manual. It is the only up-to-date guide of its kind in existence. A copy for your files will be sent on request.

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The ARCHITECT AND ENGINEER

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VOLUME 98 SEPTEMBER, 1929 NUMBER 3

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John J. Donovan, Architect

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CHAPEL, ST. MARY'S COLLEGE, CALIFORNIA

JOHN J. DONOVAN, ARCHITECT

The ARCHITECT *and* ENGINEER, September, 1929

The ARCHITECT AND ENGINEER

VOLUME XCVIII SEPTEMBER, 1929 NUMBER THREE

ST. MARY'S COLLEGE

CALIFORNIA

By: James S. Dean, A.I.A.

THE dawn of our modern civilization in California was marked by the coming of the Franciscan fathers and the construction of those wonderful structures known as the Missions. From these centers, with great self sacrifice the padres cultivated the material, mental and spiritual civilization of their Indian wards. They were priests, school teachers, parents and judges in the promotion of industry, and wise trustees of the Indians' growing wealth. The goal was a peaceful agricultural civilization and the Mission founders never sought to penetrate the future to seize the strategic centers of future trade.

The influence of the same Church that inspired these padres yet remains, and on every hand we have evidence of the same courage and foresight on the part of its modern representatives in carrying forward its policies of spiritual and educational uplift. One of the finest examples of this is written in the history of St. Mary's College.

This institution was founded by Archbishop Alemany in 1863. Five years later it was placed in charge of the Brothers of the Christian Schools, under whose control it has remained. The College saw several changes, being moved to Oakland in 1889,—back to San Francisco temporarily from 1894 to 1896 on account of a fire, and again to Oakland, where it remained.

In order to meet the demands of its growth and the changing standards of modern life it became necessary to build anew —and following in the footsteps of the early padres, a site, quiet and secluded yet easily accessible, was selected in the beautiful Moraga Valley of the Berkeley hills, and the nucleus of a great institution started.

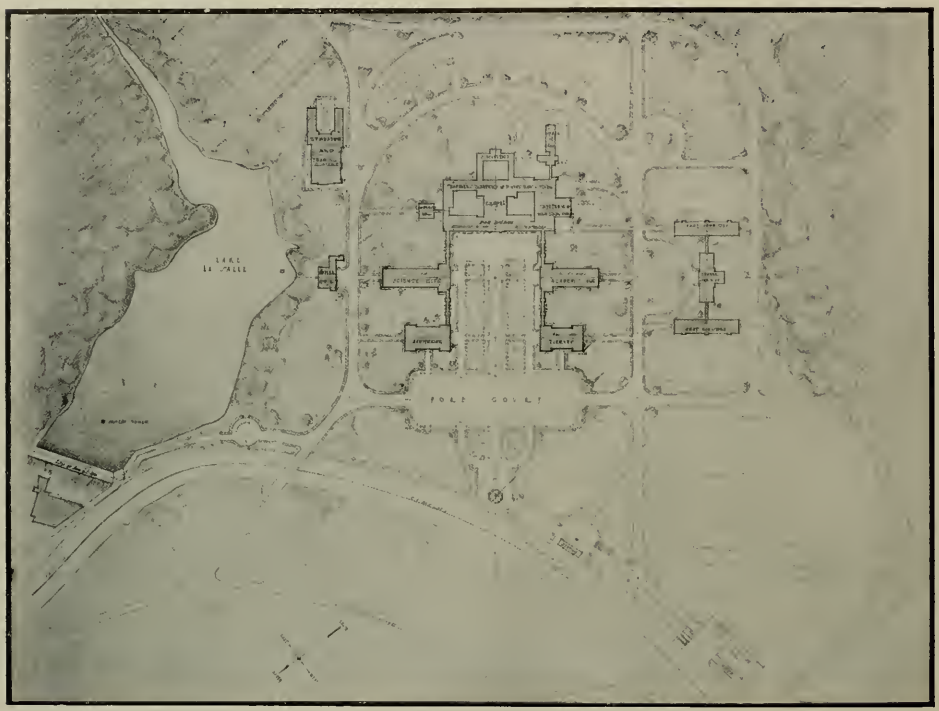
But one thought stood uppermost in the mind of the writer when he first saw the transformation that had taken place in the valley since he was last there several years previously, and that was,—another Mission has been given to California, a Mission, *modern* enough to meet the demands of a *modern* civilization.

In the development of the plans for their new home, the Christian Brothers placed themselves in the hands of John J. Donovan, A. I. A., whose name has become synonymous with the best in California school architecture and from the results obtained, their confidence has been more than

justified. In the development of the plan he has obtained remarkable results. This plan answers all of the basic requirements of a successful layout,—adaptation to natural contours, orientation, aesthetics, functional demands, efficient administration and logical future growth. It is complex only because of the complexity of the demands

the traditions of the Spanish Renaissance, capped with a dome of colored faience sparkling in the sun, sets definitely a focus of interest from every view.

This Spanish influence is of course reflected in all of the other buildings—and with their white walls—broken by the shadows of porches, buttresses, windows and



PLOT PLAN, ST. MARY'S COLLEGE, CALIFORNIA
John J. Donovan, Architect

of such a modern plant, but quite simple and logical in its grouping of these many functions. Such simplification of a complicated problem is the truest gauge of success and is only reached by exhaustive study.

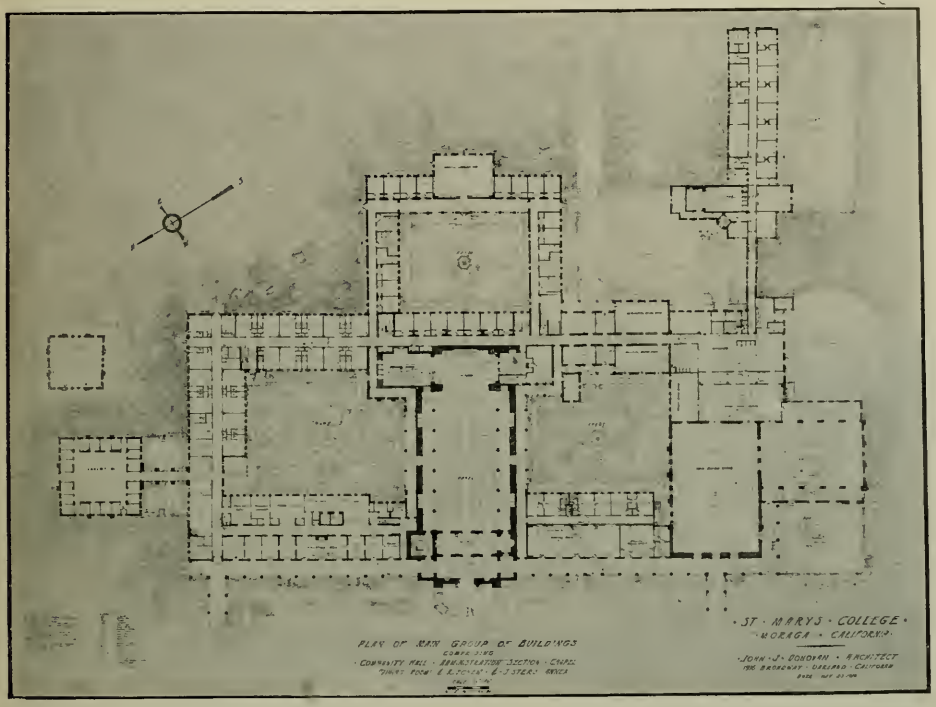
The chapel represents the spiritual center of the Institution. It occupies the axial spot of the plan and is made the point of interest architecturally. The graceful tower, with its well studied mass of detail true to

ornament—and the red and brown variegated tile roofs, a brilliant effect in general is obtained with the natural greens and browns of the Berkeley hills as the background.

The main building, which includes the chapel, is the least sophisticated and the most successful, having had less compromises to make to the demands of educational standards or practical requirements.

The simple roof lines from the front and northeast, the long rhythmic colonnades, combined with the lavish ornament of the chapel entrance and tower, make an especially effective background for the forecourt which is the feature of the plan. The full effect of this forecourt cannot yet be judged as the two main flanking buildings, pected when the planting effects are obtained.

The interiors are up to the standard of the plans and the exterior. The chapel again stands out in its interesting execution, —a beautiful shrine, quiet and dignified, a notable contribution to California's ecclesiastical architecture. The main dining room



PLAN, MAIN GROUP OF BUILDINGS, ST. MARY'S COLLEGE
John J. Donovan, Architect

the library and the auditorium, are yet to be built. These buildings will also screen the two academic buildings whose long rows of class room windows, slightly monotonous in repetition, depreciate somewhat from the general effect as viewed from the main approach.

The two interior courts at either side of the chapel are full of interest architecturally, and give promise of what may be expected when the planting effects are obtained.

The interiors are up to the standard of the plans and the exterior. The chapel again stands out in its interesting execution, —a beautiful shrine, quiet and dignified, a notable contribution to California's ecclesiastical architecture. The main dining room for students is also worthy of special mention, a difficult problem, well handled with just the right amount of restraint. The community room for the Brothers is interesting in its conception and treatment, and ideal for its purpose. The quarters for the housing of students make us realize that we had to go to school in the wrong generation, before such material and social comforts were considered proper for the growing youth.

ARCHITECT'S BIRD'S-EYE VIEW OF ST. MARY'S COLLEGE
John J. Donovan, Architect

AIRPLANE VIEW, ST. MARY'S COLLEGE, CALIFORNIA

INSTITUTIONAL PLANNING

ST. MARY'S COLLEGE

By: John J. Donovan, A.I.A.

GROWTH of cities is forcing change of location of many well and long-established colleges. Increased land values, taxes and unfavorable student environments are a few of the reasons but two of the most important are first, growth and extension is stopped and secondly, these colleges cannot afford to be occupying expensive sites accumulating economic wastes.

As a consequence many institutions of learning are resting uneasily regarding their future and where and how to re-locate. Moving is a big step and furnishes a wide range of possibilities in anticipating the physical and spiritual needs of a fairly large population. It is an attractive problem, far more so than that of taking up the work of other men, altering or revamping the campus, fitting this and that new building into an established scheme or formulating a compromise.

All the phases of life and living enter into it from the simplest of fundamentals to the complexities of laboratory dissections. Here is one instance where familiarity breeds respect, for the main factors are of such importance that the omission of one leaves the problem unsolved and out of balance. And one must become familiar most intimately with the past and present in order to prescribe for the future.

Such factors as land areas, dispositions of them, locations of buildings, athletic fields, recreational centers, are the preliminary steps leading to others such as health, safety and comfort. Misjudgment in any one of these elements would throw the entire scheme askew and forever be the cause of friction and irritation. Consequently, much thought, preliminary study and trials are necessary, measuring each solution with the preceding one, adding here and extracting there until the final adoption seems like a symposium of all the deliberations, conferences, ideas and expressions which extend over a long period of time.

With St. Mary's, it was necessary to have a clear understanding and a definite knowledge of the work of the institution, its aims, the order of the life of the faculty and the students, the work of the day and the observance of leisure when the day's work was over. The complexity of the problem, as in this case, was intensely interesting when the location was without the primary elements of urban life, such as water, sewage or fuel systems, so conveniently at hand in long-settled communities. At St. Mary's, entirely new water and sewage systems had to be devised and provided which ultimately would care for about two thousand people. Both problems were ably solved, for Nature had shaped a natural dam-site enabling the storage of about 70,000,000 gallons of water, while our engineers, with the friendly advice of the State Health Director, designed and erected an outstanding example of modern sewage disposal and control.

While these are most important, they were only two of the many problems. The general scheme and its formation was the crux of it all. The questions of importance, precedence and association of buildings seemed not at all unlike the allocation of dignitaries at an affair of State. The chapel was considered to be the most important building, and rightly so, for St. Mary's College is an educational institution conducted by men whose lives are consecrated to religion and the education of youth that they may serve God and Country the better because of the training provided for them.

Next in importance were the educational buildings, including the liberal arts and science buildings, the library and the auditorium. These five buildings are the high points of the great court with the chapel at the upper termination and the others by their position and architecture contributing dignity with respectful subordination.

Several studies proved the incongruity of placing the dormitories and other accessory buildings close to the main court as they are different in character, units of scale, purpose and decidedly distracting to the atmosphere of the spirit of this court and the units forming it. As a consequence of this conclusion, namely that the chapel and the educational buildings should form one large unit in themselves and the dormitories, gymnasium, power plant and railroad station should be entirely separate yet proximate and integral parts of the larger or whole scheme, so placed on informal axes, it was decidedly interesting to sense the barriers disappear and the scheme develop in a natural way.

ARCADE, ST. MARY'S COLLEGE, CALIFORNIA
John J. Donovan, Architect

This is always the case with any problem when a sound and logical approach is first made, having truths and facts with first principles properly correlated. It is much like constructing a building with the foundations accurately installed and the lines and levels truly run and established. However, listing the content of each unit and anticipating natural growth was decidedly engaging, as it required numerous conferences and many an exchange of opinions often productive of brilliant ideas, all of which contributed to whatever excellence may be attributed to the work.

It may be worth while to enumerate the influential elements of the scheme. Besides the buildings already mentioned there were the Brothers' quarters, those of the scholastics, or the younger student Brothers, the clergy's suites, students' dining room, cafeteria, dining rooms for the Brothers, scholastics, clergy, the lay faculty, the workmen and caretakers, and the kitchen, which must serve all these dining rooms as well as the infirmary. In addition to these were community halls for both the Brothers and the scholastics and by no means least of all, the administrative unit and the social suites for both day and resident students.

ARCADE, ST. MARY'S COLLEGE, CALIFORNIA
John J. Donovan, Architect

No doubt it will be of value to others having a similar problem to outline some of the preliminary considerations of the more important buildings while the accompanying illustrations* clearly indicate the trend of thought and are permanent records of the solutions as well as we were able to form them. Beginning with the chapel and keeping in mind that the present enrollment is a little more than 900 and that the ultimate limit is set at 1200 or 1500, the

*Photos by M. L. Cohen Company.

chapel seating was set at 750. This may seem peculiar in view of the definiteness of the permanent limits of the outline of this building, but St. Mary's, like many similar sectarian colleges, places no attendance restrictions as to belief or faith. In fact, today almost twenty-five per cent of its students are not of the Catholic faith and the Brothers have the splendid reputation of having never turned a worthy, earnest boy away from its doors regardless of religious belief or financial status, who was or is really desirous of obtaining an education. Somehow or other, notwithstanding their own financial limitations, they have always found a way for the boy to enter and progress through dint of effort and to their credit proscelyting is abhorred, as it should be.

STUDENTS' LOUNGE, ST. MARY'S COLLEGE, CALIFORNIA
John J. Donovan, Architect

The altar for such a chapel is an inspiration for creativeness. There is no limit to the possibilities, no limit to architectural achievements, no limit to the use of symbols typifying historical traditions of the church and scriptural references, and then no limit to expense if funds are available. But in this instance, funds were least of plenty and then simplicity was the keynote of the entire plan and work, but the altar called for dignity, refinement and accuracy in rubrics as well as that the simplicity should be accompanied with good taste in design and choice of materials.

The confessionals, the organ, its lofts, the Brothers' chapel, the convalescents' observatory, the sacristies, the narthex, the altar rail, the pews, the pulpit, all were details which have been solved many times before, but each have a few or several intricacies

in themselves so much so that the regular church goer knows very little of the preparations made for his worship.

One of the greatest needs of the day is a book thoroughly illustrated with detail drawings which would show accurately the requirements of the church and its several elements, accompanied with text describing each drawing and its religious significance. Also, there should be variety of examples showing the latitude and departures which are permitted without violating principles and to what extent the fundamentals should be adhered to. With that as a basis, there is almost no limit to the heights to which the architect may aspire, and what a great impetus it would be for both the Church and the profession, for then architects might with confidence offer their services, lending physical and spiritual values to the Church, the State, the Profession and to society in general.

Leaving the chapel and its causes for reflection it might be in good order to pay tribute to those fine old artists and well might they be referred to as the saints of architecture, who left their marks in ecclesiastical architecture, that we of succeeding generations might drink at their fount and draw inspiration from their work that we too may leave behind a touch here or there which would provide a warmth of appreciation for that which is borrowed in order to attain a worthy aim.

BROTHERS' COMMUNITY ROOM, ST. MARY'S COLLEGE, CALIFORNIA
John J. Donovan, Architect

Passing on to the educational buildings, anyone at all familiar with the problems of group education and knowing the fundamental principles of school and child hygi-

ene, lighting, ventilation, seating arrangements, disposition of sections, curricula, enrichment of courses, will be thoroughly undeceived when approaching the solution of the college problem, for may it be said that it is quite distinct and the architect requires the help of the able college instructor or leader to be thoroughly set aright regarding college requirements and necessities.

table accomodations must be adequately provided with space for apparatus, to say nothing at all about the other necessary facilities of the room itself. That is also true of the biology, zoology and physics laboratories. The lecture rooms also are decidedly special, for the complexities of life and the exactitudes of industry today are such that a college which does not possess

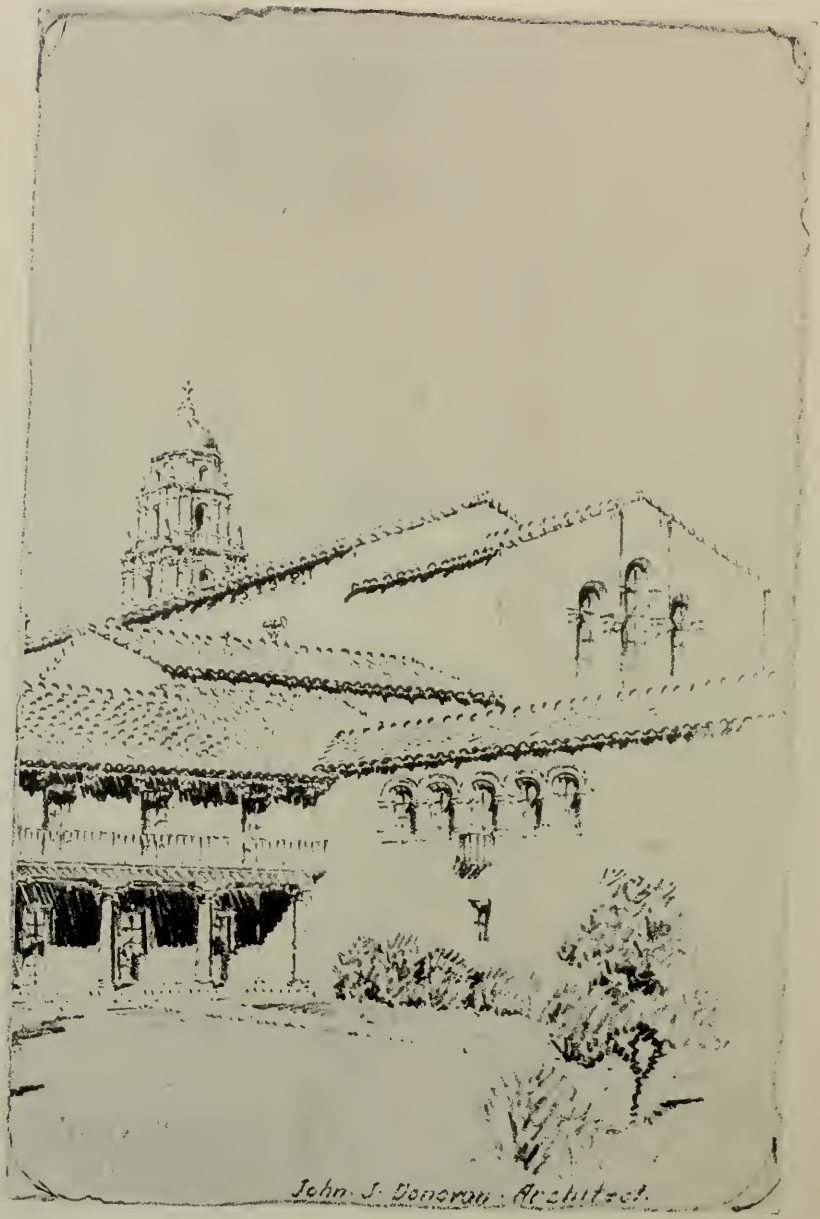
The liberal arts building with classrooms and lecture rooms and faculty offices is decidedly simple and easy of solution, but the science and engineering laboratories are labyrinths necessitating analysis and reconstruction in mind several times, in order that the equipment for organic and inorganic chemistry, quantitative and qualitative analysis may be taught, practiced and experimented upon in accordance with modern education. For instance, a college student's chemistry experiment may require weeks to reach its conclusion and in order that this may be properly executed the means, equipment and teaching force to enable the students to intelligently unravel and recompose them, is doing but little more than exhaling the dust of the bones of the dead past.

To the credit of the men of St. Mary's and the generous advice of friends of the University of California, it can be said that St. Mary's is outstanding in its science building appointments and arrangement.

The library and auditorium drawings have been completed but the buildings await the future and the funds, but each is unique and we hope will attain realization

equal to the anticipations. For instance, there are to be no windows in the main floor of the theater, it is intended that it shall be a real theater where dramatics may be taught and acted with all the atmosphere of the modern theater minus the tinsel; and where the student may quickly lose his self consciousness and readily assume the character he portrays, becoming accustomed to the environments and sensing them in order that he may live the part while assuming the role. The stage, the lighting, the arrangement of the room and spirit of the ensemble is intended to be collegiate rather than professional. No doubt that the student will quickly grasp the idea, the thought and purpose of the director of dramatics as he first essays to fit into the play. That is the purpose of it all. Just how well we and they shall succeed remains to be proven although there seems to be little doubt at this time.

The kitchen that would serve nine dining rooms had to be many-sided and somewhat flexible. There were the students' dining room, the cafeteria, those of the Brothers, the scholastics, the clergy, the faculty, the guests, the infirmary and not least, the workmen's—nine in all and at the same time there must be daylight and means of natural ventilation. In addition provision was made so that the kitchen could be enlarged as the enrollment increased. This is also true of the dining rooms and the cafeteria. A kitchen is not much of a mystery until quantity production enters into the realm of service and the field of debate. Hotel and culinary engineers and refrigeration experts are godsends to the architect until the master of ceremonies complains of the super-adequateness of the equipment. However, it is the chef who comes to the rescue and loudly proclaims that he must have more, or nary a biscuit will he cook and in the end the chef's idea of compromising prevails.



INFIRMARY WING, ST. MARY'S COLLEGE, CALIFORNIA
JOHN J. DONOVAN, ARCHITECT

BROTHERS' PATIO, ST. MARY'S COLLEGE, CALIFORNIA
JOHN J. DONOVAN, ARCHITECT

Providing for the living quarters of the Brothers and scholastics was not difficult due to their modest wants and simple modes and rules of life.

The student dormitories, the gymnasium, the power plant and the other accessory buildings, each had its share of detail and study which leads to the title of this article, "Institutional Planning." Successful planning for any institution can be accomplished only after a thorough analysis has been made of the requirements and a definite program has been prepared first from a skeleton outline, then each division of the outline must be magnified, divided and then sub-divided and the subdivisions amplified into complete descriptions. With such a program the architect is then ready to delineate by line what has been said and written and without such a program chaos and confusion is apt to be the order.

Stating the problem is the work and contribution of many, but the architect must direct the way and lead the discussions as well, and fathom the reasonings of his confreres and in such a way as to be constructive and readily grasp the various points of view. Visualization of thought and word into concrete form is the task; and in pointing out the many phases of program construction, there is no intention to imply that it is difficult or mysterious or at all irksome or that it requires unusual skill or occult knowledge, but rather that it is a great pleasure and might be likened to a feast of reasoning, especially with those who know where they would go.

There are other matters to hold the attention and guide the destinies besides analysing the curriculum and planning to meet its exactitudes and some might be mentioned, such as building substantially, choos-

DORMITORIES, ST. MARY'S COLLEGE, CALIFORNIA
John J. Donovan, Architect

ing materials appropriate and in keeping with the design, the dignity and standing of the institution in order that safety, permanency and substantiality and character may be sensed as the students and friends wander through the grounds and visit the various buildings.

To pretend or falsify for the sake of show or superficial impressions leads only to abhorrence and reflection upon the principles of truth, loyalty to God, country and purpose and the fine ideals which these earnest men hold. It is interesting to retrospect and muse over the many lively debates as to this or that and recall that final decisions were made only after the chaff had been removed and the right course outlined. It takes time for men to reason. Often clear reasoning is impeded by extraneous matters such as personal views bolstered by pride and reluctance to yield because of authority or an over-sense of responsibility. But, somehow or other, right does seem to prevail, and it will prevail often when the odds are in the other direction. It may be quite true in other affairs of life, but it is trebly true in affairs of building and it is inspiring to see it prevail with men of intelligence and honesty even though they are inexperienced in the great work of uniting materials to building forms. It is worth while mentioning again that the building industry is the second oldest in time, and it is still much of a mystery.

MY EUROPEAN IMPRESSIONS

By C.O. Clausen, Architect

XIX—A JOURNEY TO WINDSOR

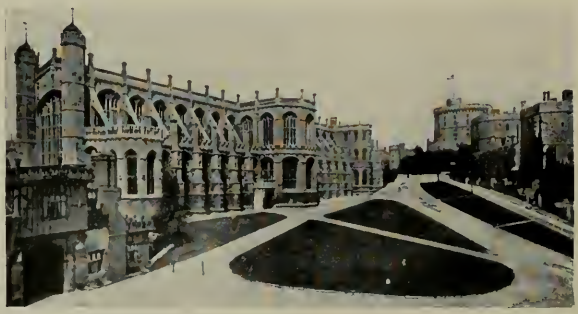
ONE of the many pleasant day trips out of London is a journey to Windsor. I made this tour partly by auto to the ancient town of Stainnes and then by steamer up the Thames to Windsor.

Along the London road we passed the old mile-stones and several quaint inns which remind one so much of the writings of Charles Dickens.

On the river near Runnymede we glided by the famous little isle where King John was forced by his Barons in 1215 to sign the Magna Carta which guaranteed the liberty and safety of the British people.

Windsor is particularly noted for its castle which is the principal royal residence of the kingdom. Its history dates from the time of William the Conqueror, nearly nine hundred years ago and since that time has been altered and added to by almost every sovereign of the realm, the final improvements being completed during the reign of Queen Victoria which left the place one of the most magnificent royal residences in the world.

The castle consists of numerous buildings and in the center of the grounds stands the conspicuous Round Tower, two hundred and thirty feet high, which was originally used as a prison and which is darkened by the gloomy memories of many past cruel deeds. On the top of the tower the flag is flown whenever the king is in the castle.



ST. GEORGE'S CHAPEL AND WINDSOR CASTLE

St. George's Chapel, within the castle grounds is where the Knights of the Garter are installed. This chapel is one of the best examples of the perpendicular Gothic style in England and it possesses a handsome fan shaped vaulted roof. The richly adorned choir contains the stalls of the Knights of the Garter with their various coats of arms and banners. In the vaults of the chapel are the remains of many English sovereigns, including George III, of American Revolutionary days, the unfortunate Charles I and the notorious Henry VIII.

Just across the river from Windsor is Eton College which is one of England's most famous schools and which dates from 1440. Among those attending this college were the poets Shelley and Gray. In the main hall are many busts of English monarchs and distinguished Etonians, including Chatham, Fox, Canning, Peel and Wellington. The Eton boys, with their peculiar broad collars, short jackets and tall hats, represent a large portion of the youthful wealth and aristocracy of England.

CHAPEL, ST. MARY'S COLLEGE, CALIFORNIA
JOHN J. DONOVAN, ARCHITECT

DETAIL CHAPEL ENTRANCE, ST. MARY'S COLLEGE, CALIFORNIA
JOHN J. DONOVAN, ARCHITECT

INTERIOR OF CHAPEL, ST. MARY'S COLLEGE, CALIFORNIA
JOHN J. DONOVAN, ARCHITECT

CHAPEL SANCTUARY, ST. MARY'S COLLEGE, CALIFORNIA
JOHN J. DONOVAN, ARCHITECT

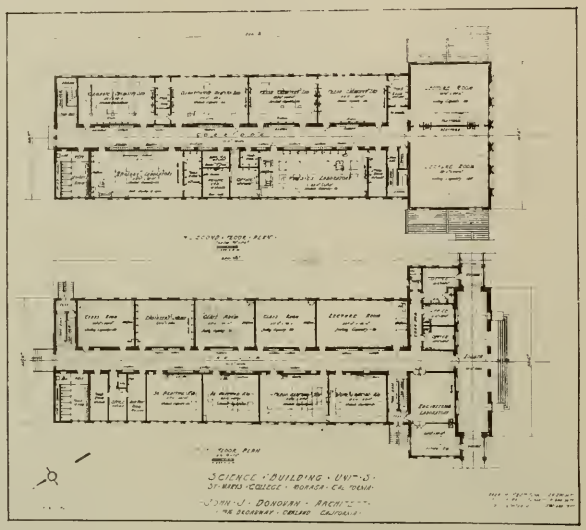
INTERIOR OF CHAPEL, ST. MARY'S COLLEGE, CALIFORNIA
JOHN J. DONOVAN, ARCHITECT

CHAPEL ARCADE, ST. MARY'S COLLEGE, CALIFORNIA
JOHN J. DONOVAN, ARCHITECT

BROTHERS' CHAPEL, ST. MARY'S COLLEGE, CALIFORNIA
JOHN J. DONOVAN, ARCHITECT

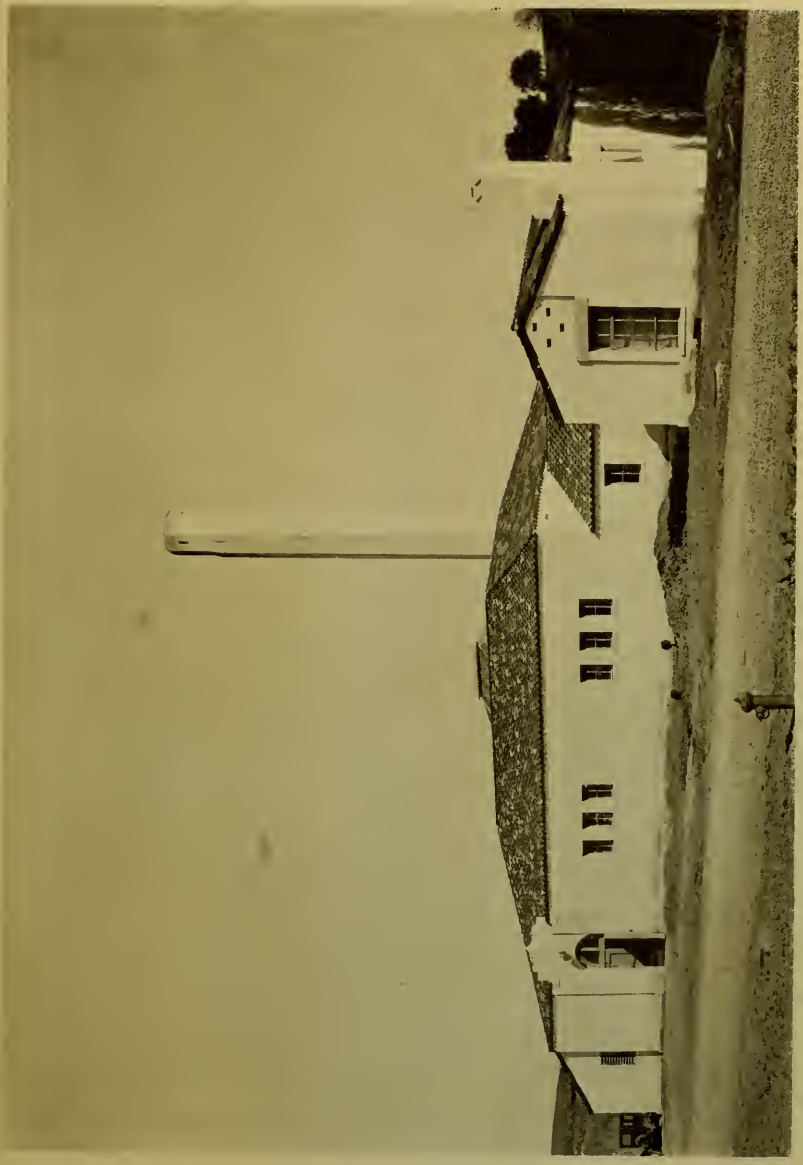
ENTRANCE DETAIL, CENTRAL DORMITORY, ST. MARY'S COLLEGE
JOHN J. DONOVAN, ARCHITECT

SCIENCE BUILDING, ST. MARY'S COLLEGE, CALIFORNIA
JOHN J. DONOVAN, ARCHITECT



PLANS, SCIENCE BUILDING, ST. MARY'S COLLEGE, CALIFORNIA
JOHN J. DONOVAN, ARCHITECT

STUDENTS' DINING HALL, ST. MARY'S COLLEGE, CALIFORNIA
JOHN J. DONOVAN, ARCHITECT



POWER HOUSE, ST. MARY'S COLLEGE, CALIFORNIA
JOHN J. DONOVAN, ARCHITECT

ST. MARY'S COLLEGE HIGH SCHOOL, BERKELEY, CALIFORNIA
JOHN J. DONOVAN, ARCHITECT

ST. BARNABAS CHURCH, ALAMEDA, CALIFORNIA
JOHN J. DONOVAN, ARCHITECT

SAN FRANCISCO
PUBLIC LIBRARY

DETAIL OF ENTRANCE, ST. BARNABAS CHURCH, ALAMEDA, CALIFORNIA
JOHN J. DONOVAN, ARCHITECT

JANE R. CLOUGH MEMORIAL LIBRARY, NILES, CALIFORNIA
JOHN J. DONOVAN, ARCHITECT

ST. ELIZABETH'S SCHOOL, OAKLAND, CALIFORNIA
JOHN J. DONOVAN, ARCHITECT

SOME THEORIES for MODERN DESIGN

By: William I. Garren, Architect

THEORIES of Modern Design, some would say at this time, do not exist. Many doubt the prevalence of a modern movement in the Arts; others say it is a passing novelty; architects contend that the Modernists cannot explain what this movement is. At a recent A. I. A. meeting a well known Los Angeles architect, a member of the Honor Award jury, stated that many architects were trying queer things in the southern city, designs which could not be explained; but that he hoped for the best and that these men would probably soon see the light. An equally well known Santa Barbara architect, on the same jury, said there was nothing to worry about; that things were not as bad as the Los Angeles man indicated. He stated further that principles of design do not and will not change so long as the laws of gravity obtain. The speaker was sure we could expect no radical disturbances from the ranks of the profession.

A furniture factory in Los Angeles recently announced over the radio that modern furniture was a fad and had proved a failure and that a large stock of modern furniture could be purchased at below cost. In spite of these greatly differing opinions new art forms in architecture are spreading with tremendous rapidity and must soon convince all architects that a new style has been evolved.

And why does this 20th century design gain in popularity? Is it a bastard style? Is it a decadence as Cram declares? Is no change in structure and design possible because of the law of gravity? It is the purpose of this article to show that modern design can be explained and that a change in structure and design has come about and is desirable.

DINING ROOM DESIGNED BY KEM WEBER

Furniture is a light sage green with inlaid polished walnut tops. The chairs are covered with persimmon red leather. Walls are pale yellow.

First, why should we change from what we have been doing? Is there some purpose or motive? We might examine our philosophy of art. To be truly considered a work of art (by art is meant both good and bad, or beautiful and less beautiful), a building must be, to a large degree, the material creation of the indi-

HEAD: "INNER VISION," BY JAVLENSKY

CHURCH TOWER BY FEININGER

MASS STUDY SKETCH BY FEININGER

THESE REPRODUCTIONS OF THE WORK OF TWO GERMAN MODERNISTS ARE FROM THE PRIVATE COLLECTION OF MME. GALKA E. SCHEYER

vidual architect. The architect must possess or first create a thought form in his imagination where a picture is developed. The architect, be he an artist-architect, is able to conceive such an imaginary form and then proceed to realize this abstract form into the creation of the material or objective mass or building. If this process is done with a consciousness for beauty and some number of persons respond or are affected to enjoy and appreciate this material form, a work of art has been executed.

An architecture, a period or school, which reproduces forms created by others, while to a certain extent reorganizing those forms in beautiful composition, does not in the truest sense evolve works of art. If architecture is to live as an art, there must at all times be architects who will, with imagination and sense of beauty, create new and original forms. It is such architects who have written into the history of architecture the great styles of the past. The present day creative architect is termed the modernist, and good or bad, his works are contributing that freshness and originality which make architecture a vital art. This alone should be sufficient explanation and purpose for a change.

Architecture, if it is to continue as an art must change. Should the motive of pure art be not sufficient, let us examine further. There are many contributing factors; at times a law or restriction will create a style, as for instance, the set-back law in New York; a new use of material; a new material; a mathematical formula; an economic change; these and many other inventions affect architectural design.

Most important of all change in design is the use of steel. Here is a material that bends and balances, is elastic and returns to its original position; it has a high tenstile and compressive strength for a relatively small volume; it can be shaped, molded, welded and tied together with bolts and rivets of its own material, making it a homogeneous structure. Does this not alone tell the reason for the great change? Steel as a structural material has not existed until this modern age; this is the steel age and marks an epoch in the story of man. Another new material is *reinforced concrete.* As a local salt manufacturer advertises: "When it rains, it pours." Concrete is a mechanical mixture, a plastic solution. It flows into prepared molds or forms, when set it becomes the hardest stone. It may be united with steel to form a monolith acting as a whole to resolve its strains and stresses.

Most of the historic styles have been solutions of structure and material. Gothic architecture existed and flourished as an imaginative solution of structural design and material. It cannot be reproduced purely (except in imitation) unless the same materials are used and a similar structural solution is affected. The classic and somewhat less, the Renaissance styles, are clearly structural solutions in stone and timber. The application of classic or gothic forms to modern structure, except in imitation, have only in rare instances proved successful or beautiful designs. We may imitate older stydes in new materials but we cannot create works of art and few imitators are modest enough to copy without a desire to improve.

We see that for this modern present day, history repeats itself, and art lives again. The architect who is interested realizes that a new world of art exists, one in which he may now create with originality. It once was a crime to be original, and few dared be so; now all are free to take a part in the development of this new style. Architecture today is not dependent upon column and lintel, or unit block construction. There is no logical reason for adhering to lintel and column architecture when monolithic structures are used as the supporting members. Steel, because of its small proportions, does not satisfy the eye for strength and beauty. To attempt to follow its line religiously in stone gives the lie to the stone and does not satisfy the steel. We must, it seems, to achieve beauty, clothe our steel structures with a design creating interesting composition, mass and proportion, recognizing the law of gravity and form independently of supporting structure.

In modern design the theory is to use structural materials in such manner as their physical properties permit and be free to

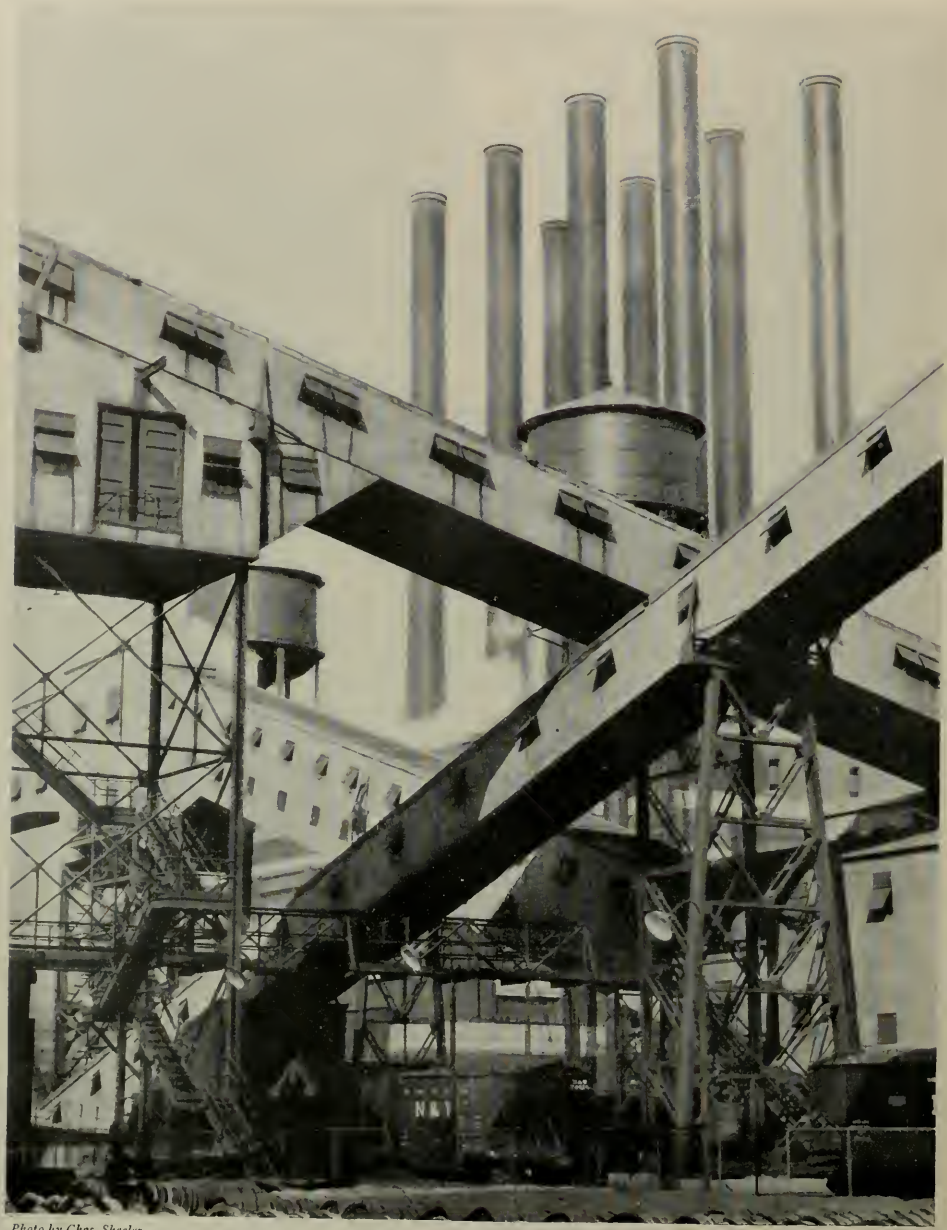


Photo by Chas. Sheeler

INTERESTING COMPOSITION ATTAINED IN MECHANICAL DESIGN
FORD AUTOMOBILE FACTORY, DETROIT

Photo by Moulin

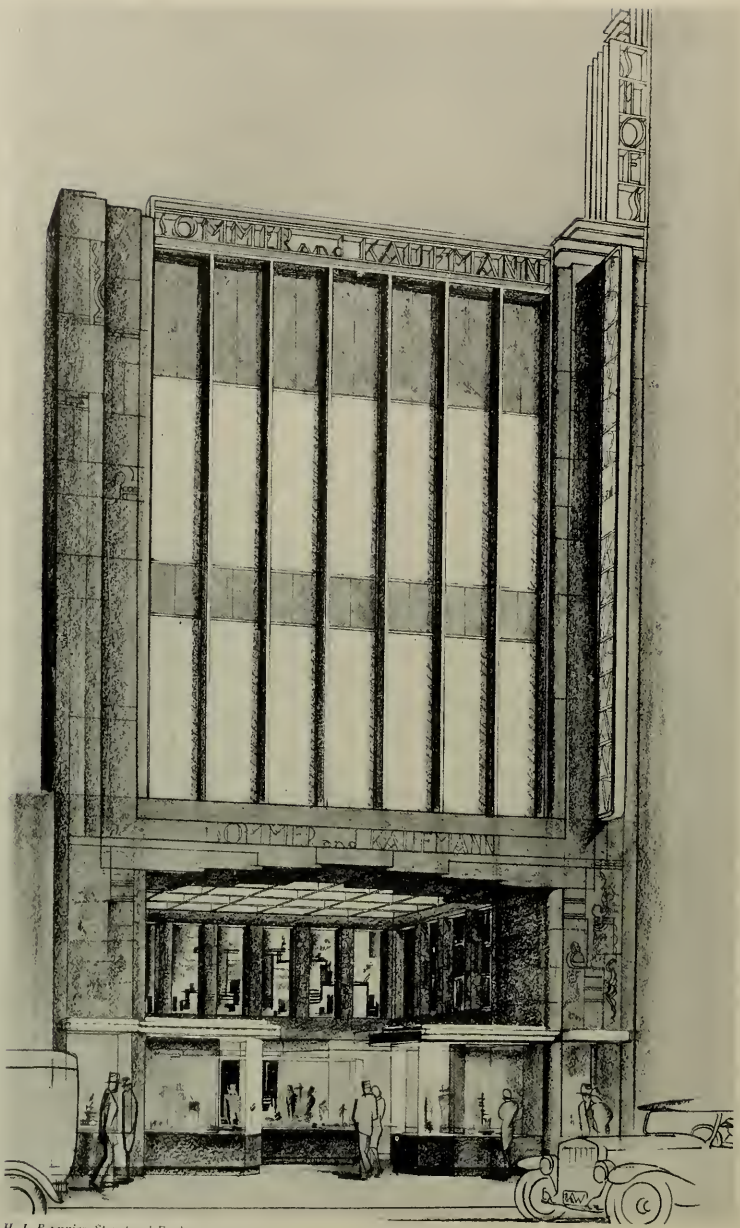
BEDROOM, RESIDENCE OF MR. AND MRS. JOHN BISSINGER, SAN FRANCISCO

SIDEBOARD DESIGNED BY KEM WEBER, LOS ANGELES
PAINTING BY PETER KRASNOW

design accordingly. It is not necessary to strive for effect at the expense of structure or order as is generally supposed. Use plastic material in plastic design. It can flow and grow into a mass that is supreme. In modern design structural members should wherever possible function architecturally. When and if it is not possible with ease they should be clothed and mass should govern structure.

What, one might ask, becomes of the theory that architecture should on its face or exterior express the functions of the interior plan? Can churches superimposed with office buildings be coordinately expressed? Can sub-surface railroads roofed with department store and thirty story office buildings be made expressive of all their inharmonious functions? The traditionalist has struggled with this theory for a century. It has failed. It is time to discard such a theory for a new one: that the interior of a building, if it cannot be easily and economically related to the structure, should be treated independently. Handled independently of structure, an interior need not have structural form. Without the need of structural form interiors become space. Space is a new form. It can be molded and modeled just as material can be chiseled. Loads and stresses pass over this space by girders, trusses and cantilevers to the outer walls. The Modernist designs this space, and forms projected into the void are designed for the re-entrant form they create, rather than for the form of projection and external profile. This treatment forms the motif for many of the modern French hotel and theater interiors, also German churches.

Freedom from structure, (exceptions are generously admitted in monumental architecture), is a decided change in the theory of architecture. Most previous styles in architecture and most schools teach the theory that all good architectural design has structural design as its basis. With this removed we can understand the passing of columns, pilasters, arches and trim from interior design. If used, these forms now can be treated without structure. Glass columns, silver walls, light rays, transparent marble, mirrors, reflective lacquer surfaces, all in new combinations are used with great beauty in modern design. The writing of this article has reminded the author of a long felt conviction that the greatest mistake came when architects set down rules and theories of design to be taught without explaining the virtue of change. In modern architecture theories are ever changing thoughts. Each flash or inspiration has a theory for the artist. It is for the artist to create and for the philosopher to theorize; and with each doing his utmost Art will continue to change and in each century a modern art will be born.



H. J. Brunnier, Structural Engineer

BUILDING FOR SOMMER & KAUFMANN, SAN FRANCISCO

SKETCH AND DESIGN BY KEM WEBER, HOLLYWOOD, ALBERT F. ROLLER, ARCHITECT

COLOR IN DRAPERIES

AN interesting analysis has been made by Leon and M. E. Pescheret of the Academy of Applied Interior Decoration on color tendencies in modern draperies. The following paragraphs are from a late number of *Western Decorator*:

It is not so long ago that draperies were considered an article of furnishing obtainable only by those who had wealth. But today, owing to the unlimited number and kinds of fabrics that are obtainable for this purpose, this important factor of interior decoration has come within the purchasing power of almost every individual possessing a home.

It would make an interesting study to detail the results that have been obtained if everybody realized that the professional decorator usually takes his drapery treatment as the fundamental from which to start the composition of a furnishing scheme. And, with respect to the drapery scheme itself, the fundamentals with which he is vitally concerned are the texture of the materials, the design to be used, and the color scheme that the furnishings or the room itself must reflect to personify the character of the owner.

With reference to the texture of the materials, this point seems to be quite obvious; namely, that if the room is to be furnished in an inexpensive way one cannot hope to use damasks or brocades for the overdraperies and vice versa, although we have found curtain materials will reflect different degrees of quality under different usage. In reference to the design—different fabrics are obtainable in almost every type of design, so that the decorator can reproduce an Italian room in cotton or silk according to the budget allowed or the particular atmosphere required in the given space. We have simply mentioned these different points to make the individual realize that draperies are not things to be decided upon at a moment's notice, for they must be an integral part of the whole composition.

But it is not so much the consideration of the materials used or the classification of their design that we want to bring to your attention at this time, but the fact that draperies form the keynote in color of the decorator's decorative scheme. The light passing through the colored fabrics usually gives an intensified color reaction of the particular colors chosen for a particular room. It is for this reason that the color scheme of the draperies should be very carefully considered. The importance of this fact can be noted when you stop and consider that manufacturers usually produce their textile of the same design in two, three, four or even more different color combinations which proves that the texture of the design of a particular fabric is not as important as the obtaining of a proper color to embellish a room.

If we take color in its simplest form, we mean by that, if we refer to our charts of color—simplify all the different tones, such as browns, greys, tans, etc., to their primitive compositions; if we can analyze their basic foundation to determine just what primary colors they contain, and in what proportions these primary colors are used, we can ascertain by these deductions just what primary colors are in the minority, and working on the principle of color balance, introduce these colors into other parts of our furnishing scheme, thereby creating a balance of color. For example, let us suppose we have a living room which has a predominating west exposure, we know that daylight coming from the west under most conditions is a "warm" light, or in other words, a light that is possessed of a great amount of yellow. If we curtain a room of this type with a yellow fabric, having intensified this yellow light coming into the room, we will have to use a great deal of purple in the rest of our furnishings to balance this intensified yellow light, and in so doing we may find ourselves working in a very strong value of color, for we must not overlook the fact that the secret of the proper use of color balance means that all the colors in a given scheme shall have the same power one as another with respect to the whole composition. This does not mean

that if we have an area of six feet colored yellow we must have another six feet area somewhere else in the room covered with purple, which is the complement to yellow. But it does mean that we should introduce a purple atmosphere somewhere in the composition sufficiently strong to balance or equalize our large yellow area.

On the other hand, if we already undertake to balance the yellow light that is coming into the room or to diffuse this light to a neutral state by using draperies with a predominating amount of blue-purple, as the main theme of the color scheme—we will then be able to use a warm palette in the room and still obliterate the "stuffiness" that would otherwise result from an exaggerated atmosphere. This is why it is all important for the professional or amateur to consider seriously the color scheme of his draperies in conjunction with the exposure of the room—the reflected outside light and the furnishings of the room.

Draperies and color go hand in hand—when speaking of one we must automatically think of the other. Then color influence is not only important—it is paramount. And, for the sake of our furnishing scheme as a whole we owe it to our work to secure the proper foundation from the standpoint of color. It is hardly necessary to mention how important a part color plays in interior decoration, it is the very life of that art. To treat it superficially, or to be ignorant of where it may best be expressed is to court disaster. Drapery treatments, then, are fundamental color mediums and stand in the front line when the successive steps in the composition of a decorative scheme are being considered.

WHY ARCHITECTS AND DESIGNER-BUILDERS CANNOT AGREE

ROY KELLY, active in architectural affairs in Southern California, has some very good and pronounced ideas on residence architecture. A year or so ago he read an interesting paper on the subject of Home Design at the State Convention of Architects in San Francisco. Part of Mr. Kelly's paper was printed in this magazine. For want of space the other part was omitted. Here it is, a little belated, but none the less readable:

An analytical study of fine residence districts discloses the fact that those which attain the greatest appreciation in value are those which have been improved with not always the largest homes, but the best designed homes. The best residence districts will show that nearly 100 per cent of the homes have been designed by architects.

On the other hand, countless potentially fine residence districts have been unalterably ruined and property values everlastingly depreciated by the misguided types of homes that have gone in—designed by those who have no more business designing homes than a blacksmith would have in performing a surgical operation. This is an injustice to the property owner and he should have a means of protection against it just as he has been given the protection of zoning, which, by the way, was at first regarded as unconstitutional but sustained by the courts.

As I have said, we are not prompted by motives of envy and jealousy in our objection to the designer-builders. Many designer-builders have become certificated and are now architects doing creditable work. It is the incompetent designer-builder we object to, the one who has no ability or training and merely attempts to copy the architects' work.

Wallace Neff did a very interesting house with a circular entrance motif, well proportioned and the house was large enough to stand it. Within six months the landscape was infested with miniature bungalows all designed in the Silo-Spanish style and paying court to a round house.

These designers have out-architected the architects, and the poor misguided public, in its quest for something different, has ravenously eaten it up and then acquired an awful stomach-ache.

And the most woeful part of it all is the criminal manner in which they build. They wrap up the worst kind of junk in the most enticing sort of a gift package. I have watched many of their houses under construction. I have seen the worst kind of framing, construction, plumbing, concrete work and plastering embellished with the most expensive and enticing decoration, colored tile, wood panelling, beamed ceilings, carved woodwork, colored bathtubs and all other kinds of bait to ensnare the poor gullible public with houses which are healthy looking but badly diseased inside, needing constant medical care for the duration of their short lives.

The architect is temperamentally, and by force of his training, adverse to such practices, and it hurts him to see such practices going on. That is why he objects to the "Designer-Builder." His objection is based entirely on the grounds of the incompetency of designer-builders as a class to qualify for the work they are attempting to do.

"FALSE FRONTS"

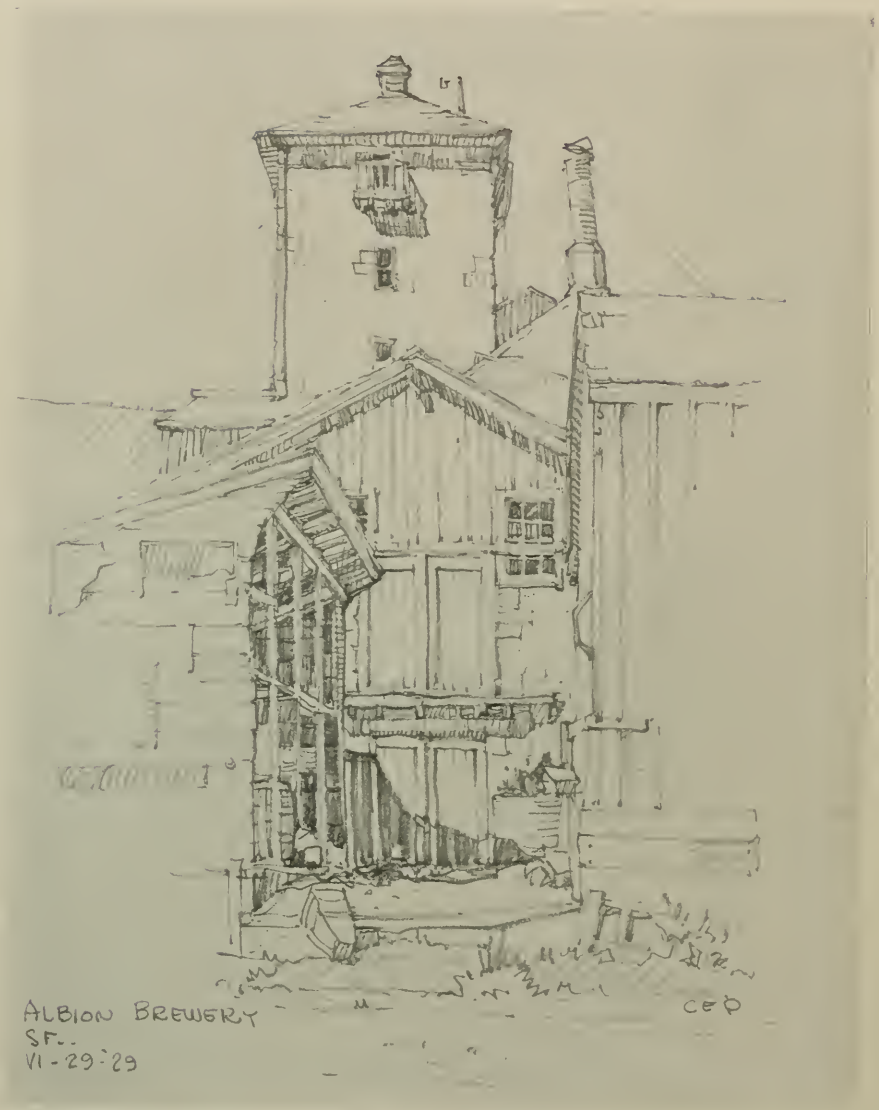
PORTFOLIO OF SKETCHES

HUNTER'S POINT SAN FRANCISCO

DRAWN BY CHARLES E. PETERSON

SMALL DOCK

MECHANIC ARTS



PORTALS OF THE PAST

HOUSE ON EVANS AVENUE, SAN FRANCISCO

HOUSING DEVELOPMENT

THE HOUSE IN THE WHEAT PATCH

ENGINEERING

and

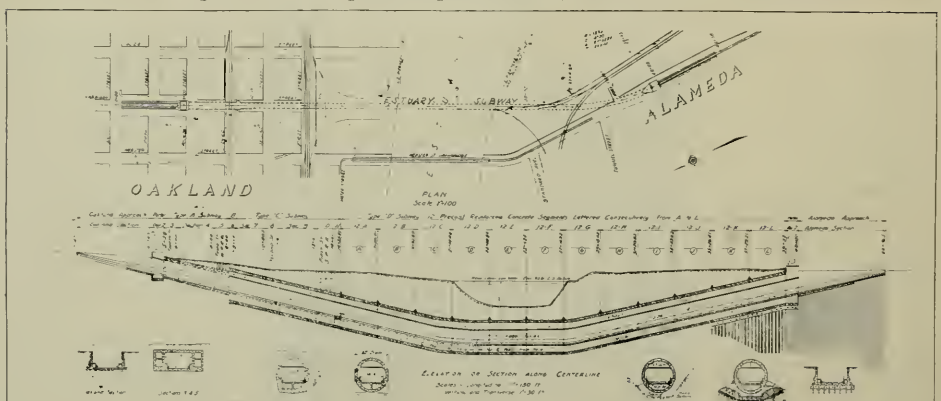
CONSTRUCTION

ALAMEDA APPROACH TO TUBE AND VENTILATION EQUIPMENT BUILDING AT PORTAL

Featuring the

Geo. A. Posey Tube in Oakland-Alameda Estuary

INTERIOR OF GEO. A. POSEY TUBE, OAKLAND-ALAMEDA ESTUARY
Note Ceiling Exhaust Ports, Lights and Signals, Sidewalks, Fresh Air Slot and Gutter Inlets



PRINCIPAL DIMENSIONS
Tube Length including Approaches 4936.5 ft
Length Portal to Portal 3543 ft
MAXIMUM GRADES
Oakland End 4.58%, Alameda End 4.50%
Roadway
Width between Curbs 22'-10"; Width between Sidewalks 24'-8"
Width between Walls 31'-6"; Sidewalks Width each side 3'-5"
Head Room - Road Crown to Ceiling 14'-10"
LENGTH OF DIFFERENT CONSTRUCTION TYPES
Oakland Approach 4.45 ft, Alameda Approach 4.16 ft
Oakland Portal Bldg. 83.5 ft, Alameda Portal Bldg. 68 ft
Type A Rectangular Box Section 341 ft, Transition from square to round 37 ft
Type C Built-in-place Arch 378.5 ft, Type D Precast Concrete Segments 2436.5 ft
Type D PRECAST SEGMENTS
11 Segments, Length each, 203 ft, Walls 2'-6" Thick
Outside Diam. 37 ft, Inside Diameter 32 ft
Built at Marine Park Drydock San Francisco
Weight as Floated 5000 tons each, Depth of Freeboard 28 ft
Total Displacement fully submerged in Sea Water 70000 Tons
Ballast required to sink each segment 2000 Tons
Lower Air Duct filled with water 300 Tons, Sand on top of Road Slab 1100 Tons
Concrete 8 sacks cement to cubic yard Reinforcing Steel about 2500 lbs per lin ft

TOTAL QUANTITIES OF WORK
EXCAVATION
Dredging 805,000 cu yds
Dry Excavation 360,000 cu yds
Concrete 75,400 cu yds
Reinforcing Steel 5000 Tons
Cement about 150,000 bbls
CONTRACT COSTS PROGRESS
Bond Election Passed 1923 for $4,000,000
Contract with California Bridge and Tunnel Co.
Awarded June 13, 1928 for Main Portion of work
for $3,881,538.40 Does not include Ramp Bids
Superstructures, Roadway and Traffic Roads etc.
Work begun June 15, 1928 Time limit 300 Working Days
PROGRESS TO NOV. 1, 1929
Time passed 445 Working days = 49.5% of Time of 900
Work completed $2,450,000 or 64% of Total Contract Price
PRECAST SEGMENTS 12 Total
6 Completed and floated out of Dry Dock
1 Completed in dry dock 1 half completed in dry dock
2 Sunk in place
Oakland Portal Bldg and all the Backing Face Portal Alameda Portal Bldg 30% completed

ENGINEERING ORGANIZATION
George A. Posey - Chief Engineer
Chas. Derleth, Jr. — Consulting Engineers
Otto Singstad
Wm. M. Burr
Clifford M. Young (Deceased) Consulting Engineer
Henry E. Squire — Advisory Engineer
Ralph W. Bent — Engineer of Designs
Lockhart Young — Construction Engineer
Fred J. Baxter — Office Engineer
Newton C. Collins — Foundation Engineer
Sam Carter — Structural Engineer
Jos. A. Ritts — Concrete Technologist
Bridges & Mayers — Consulting Electrical Engineer
Henry J. Mayers — Consulting Architect

CONTRACTORS
California Bridge and Tunnel Co.
A. J. Crocker, President
Henry Severy and Associates
Francis Smith, Consulting Engineer
U.S. Post Subcontractors Raymond Concrete Pile Co.
A. A. Pettenglo, Superintendent Foundations & Piling
G. T. O. Brien, Engineer Riveters Paint
SUB CONTRACTORS: Oakland Harbor Pile Driving Co.
Robinson and Roberts

GENERAL LAYOUT AND DETAILS, GEO. A. POSEY TUBE

THE OAKLAND-ALAMEDA CONCRETE TUBE

By Merton C. Collins, C.E.

THE George A. Posey vehicular tube, recently completed under Oakland's inner harbor, connecting the cities of Oakland and Alameda, is pleasing from an architectural standpoint. Structurally it has been declared a success and an economic asset in that it provides uninterrupted passage for both vehicular and shipping traffic thereby increasing property values in both cities.

The complete success of this tube has demonstrated its value to other communities on the Pacific Coast, which are considering the construction of similar tubes to help solve their problems of carrying vehicular traffic past the lines of shipping.

Among other proposed projects is a similar tube under San Diego Bay, connecting the cities of San Diego and Coronado; a tube under False Creek in Vancouver, B. C.; the possibility of a second tube under Oakland's Inner Harbor to replace the existing outworn Park street bridge; the inclusion of tubes for a part or whole of the length of several of the proposed crossings for San Francisco Bay; and also a four-track subway for street cars under and along Market street in San Francisco, much of which will be in water-bearing soil. Another project, about to be started, includes twin vehicular tunnels through the Contra Costa hills, between Contra Costa County and Alameda County. This is to be the western terminus of the transcontinental Victory highway. While these tunnels are in no sense tubes, they are to be ventilated similarly to the George A. Posey tube.

CONCRETE APPROACH WALL PYLON SHOWING TRAFFIC GATE, SIREN AND SIGNALS

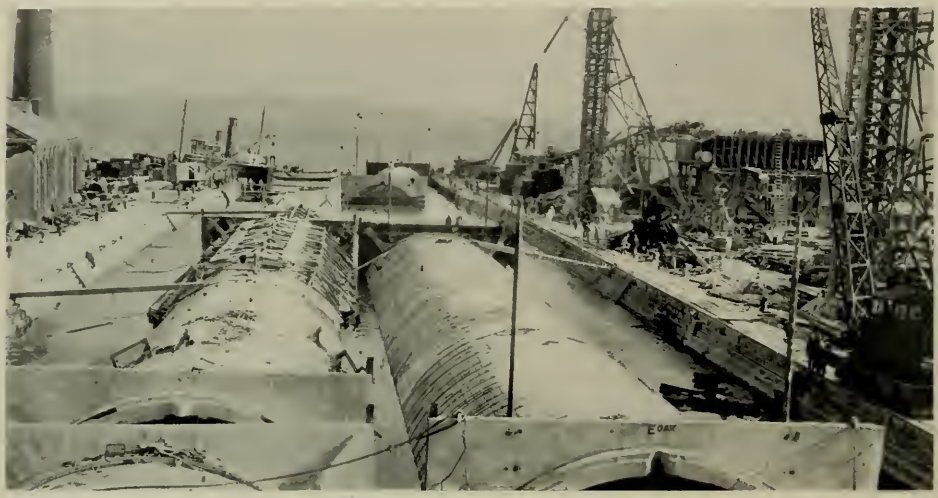
The George A. Posey subway, named after its chief engineer, was completed in 1928 at a cost of approximately $5,000,000, including the cost of right of way. It was selected, after considerable study of various types of crossings, to replace the Webster street bridge, which the War Department had ordered removed in 1923 because of its hazard to shipping.

The tube extends from Sixth and Harrison streets, in Oakland, and proceeds southerly on a 4.59 per cent grade, passing under the Inner Harbor with the low point in the roadway 68 feet below low water, and then ascending on a 4.50 per cent grade to Webster street in Alameda.

The total length of the structure is 4436.5 feet, of which a length of 3545.5 feet is covered and requires lighting and ventilation.

Inasmuch as such a structure is practically entirely underground, there is little opportunity for architectural treatment, However, in this structure, the ventilation equipment buildings were located over and around the portals, and the architects, Henry H. Meyers and George B. Klinkhardt, rendered the buildings, portals and approaches along very pleasing lines and coloring. The architecture is a distinct addition to the localities in which the portals are situated, one being in a wholesale commercial district and the other in an undeveloped expanse of reclaimed tideland. Already the effect of this architecture is apparent in a better style being adopted by the owners of adjacent new commercial buildings.

Each ventilation building superstructure is 75 feet by 65 feet in plan and 60 feet high, housing four exhaust fans and four vertical exhaust stacks. The stacks, which are of metal and curved in shape, are housed in two concrete towers surmounted by red Spanish tile roofs. The foul exhaust air could not be allowed to reach and contaminate the fresh air supply, accordingly the stacks discharge into a center air well between the towers, which are separated by plain glass curtain walls and flying buttresses, and thus the tower effect is preserved as was desired by the architects.



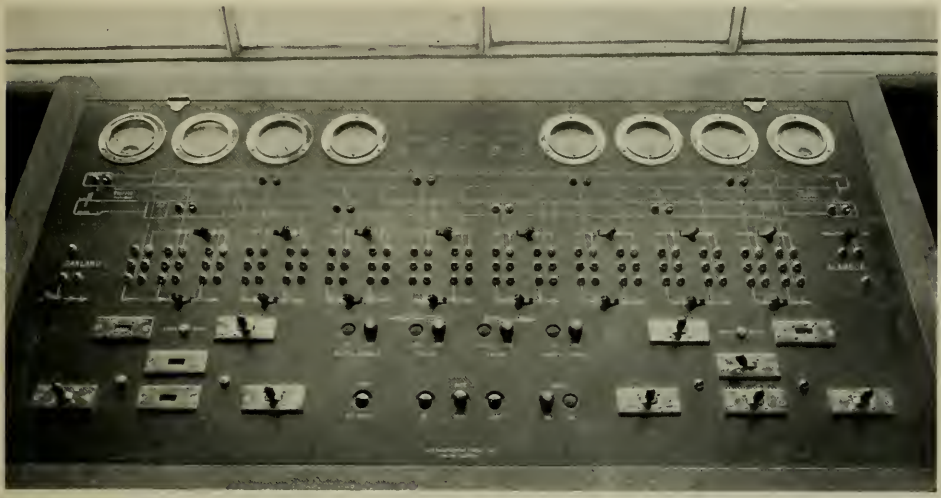
FOUR PRECAST SEGMENTS FOR GEO. A. POSEY TUBE
Drydock Flooded for Removal of Completed Segment

The approach retaining walls, which separate the parallel surface streets from the tunnel approach roadway, are surmounted by heavy reinforced concrete balustrades panelled with oval openings and having piers at 100 foot intervals supporting heavy metal lamp standards, each holding two pendant lanterns with cathedral glass panels. Each approach balustrade terminates with a rectangular pylon, six feet by seven feet in plan and 25 feet in height, surmounted by a large octagonal bronze lantern with cathedral glass panels. These pylons serve as police boxes, fitted with telephones for traffic officers, and also house traffic gates, sirens and traffic lights to control the entering traffic.

While the architects admirably took advantage of the small opportunity offered them, the real problems in this project were those of economical structural design and water-tightness. Therefore, it is from an engineering standpoint that most interest is attached. It is the first tube of its kind, being constructed entirely of reinforced concrete, and the largest in diameter. Many of the problems encountered were both new and in some instances unique.

grade provided sufficient headroom a transition was made to a circular section, with the roadway in the center and a large air duct below and above. Except for requiring very deep and wide cuts with heavy earth pressures to retain and the supporting of two main line railroads and a large concrete storm sewer, no unusual problems were encountered in the portion of the work placed in the dry.

The dredged water-filled trench across



OPERATOR'S INDICATOR BOARD, GEO. A. POSEY TUBE
Showing Status of All Signals, Fans and Motors

Of the covered length, 1042 lineal feet or 44 per cent, was constructed in a deep open trench and cofferdam in the dry, and the balance was constructed by precasting twelve immense concrete tube segments in a drydock, located ten miles from the site, floating them to position over a water-filled dredged trench and sinking them to grade and then joining them with watertight joints.

The dry open cut portion extends along and under Harrison street, in Oakland, from Fourth street to the harbor line. Owing to the lack of headroom over the structure the first half of this was designed as a rectangular box cross section, with the roadway in the center and two large air ducts on either side. When the drop in

the harbor was prepared during the construction of the twelve precast segments in the drydock, of which four were continuously in various stages of construction during the six months required for their completion.

Each segment was 203 feet in length, 37 feet external diameter, 32 feet internal diameter, and all covered by a thick membrane water-proofing of asphalt and cotton fabric. When a segment was completed the ends were bulkheaded by means of vertical steel I-beams, or heavy timbers, sheathed and covered with a water-tight asphaltic membrane. The weight of a segment as floated from the drydock was 5000 tons with a draft of 26 feet of water. The total displacement of a segment as fully

submerged in its position in the trench was 7000 tons. Just prior to sinking a segment, the air duct compartment below the roadway slab was filled with 1100 tons of water and 900 tons of sand were spread over the roadway slab and the final small amount of ballast required to overcome buoyancy was added by sprinkling the sand on the roadway and the segment slowly sunk to grade. The time taken to sink a segment was from three to six hours, most of which time was taken by the survey parties making frequent observations on the four steel alignment masts attached to each segment and by which its accurate location as to grade and alignment was controlled.

One of the most troublesome features of design was that of obtaining a satisfactory water-tight joint between the segments. At the ends of each segment were cast square concrete collars, in the vertical edges of which were embedded steel sheet piles with their grooves exposed. When two segments were abutted the collars were five feet apart. A semicircular steel plate, forty feet long, was engaged with and slipped down the protruding grooves of the sheet piles in the collars and the space thus formed was filled with concrete through a long tremie pipe extending from a floating concrete barge above. After backfill was placed around and over the segments in place of sufficient amount to overcome the buoyancy of the emptied segments, the bulkheads were removed. The inside portion of the joints, with their lapped reinforcement, were then poured and finished. The joints thus constructed have all proven to be water-tight and are entirely satisfactory.

The roadway section provides for two lines of traffic with a roadway width of 22 feet 10 inches between curbs and a ceiling height of 14 feet 10 inches. Two elevated sidewalks each 3 feet 5 inches wide, are provided for pedestrians. At frequent intervals step niches are provided above the curb and openings are left in the sidewalk handrail for the use of occupants of vehicles who may desire to secure fire extinguishers.

Horse-drawn vehicles are prohibited from using the tube, as are motor vehicles of insufficient power to manipulate the grades. Theoretically, with vehicles moving at 20 miles per hour and spaced at 50 foot intervals, the capacity of the tube would be 4224 vehicles per hour, but due to the interspersion of slow-moving vehicles, and also due to traffic interruptions on the city streets connecting with the tube, the present maximum traffic is about half of the theoretical. The chief source of traffic interruption within the tube is due to vehicles running out of gasoline. Fires and collisions are exceptionally rare. Towing service is provided by a truck located outside of the tube and the average time required for clearing traffic after a call is put in is about six minutes.

With the structure completed probably the feature of most interest to the public using the tube is that of ventilation. Instead of the objectionable methods of natural or longitudinal ventilation the George A, Posey Tube is ventilated by what is known as the continuous transverse method of ventilation, such as has been heretofore used only in the Holland tunnels in New York. By this method the fresh air is drawn through louver walls in the portal buildings and forced by eight immense Sturtevant Silentvane fans through large air ducts paralleling and separated from the roadway. From these ducts, which are under maintained static pressure, the air is forced through flues at 15 foot intervals into a continuous expansion chamber faced with a steel plate forming an adjustable slot through which the air is blown out into the roadway in a horizontal sheet at about hub cap level. Here it mixes with the warm motor exhaust gases and rises, assisted by the suction pressure maintained in the exhaust air duct located above the ceiling and in which pairs of adjustable port openings occur at 15 foot intervals. The vitiated air, thus drawn into the exhaust air duct, is drawn out by eight fans, similar to the fresh air fans, and is then exhausted through large vertical evase' stacks to the atmosphere.

Each of the sixteen ventilating fans is chain-driven by a four-speed motor and with the various combinations thus available it is possible to furnish any quantity

of air from 60,000 cubic feet per minute as furnished by a single fan operating at its lowest speed to a maximum of 1,000,000 cubic feet per minute as furnished by all eight fresh air fans operating at their highest speed. At the present time the maximum traffic is handled effectively by using all fans at their third speed, which furnishes about 78 per cent of the full fan capacity, leaving a 22 per cent margin for traffic emergencies requiring additional air or for standby equipment during overhauling and repairs.

The fresh air is provided to dilute the deadly carbon monoxide gas, which is one of the constituents of motor exhaust gases. Whereas carbon monoxide present in the proportion of 4 parts in 10,000 parts of fresh air is safe for an exposure of one hour, it has been found that when the concentration reaches only 2 parts in 10,000 that the smoke from the vehicles becomes noticeable and is a factor in the amount of ventilation needed.

Carbon monoxide detectors and recorders in each portal building continuously analyze the vitiated air being withdrawn and give continuous graphic records of the air condition. These charts are not only insurance against accident suits and complaints but permit the most economical operation possible of the equipment for the fluctuating intensity of traffic.

The roadway is lighted by two rows of ceiling reflectors, each with 100 watt lights at 20 foot intervals. These are on two separate circuits which prevents interruption of lighting in case one source of power is shut down temporarily, and also permits of economy of lighting during the periods of light traffic.

The power supply for the operation of fans, motors and lights is insured against any interruption by being hooked up to four independent sources interconnected by automatic switches.

Drainage is provided for by large sumps located at three points and equipped with automatic motor driven centifugal pumps. Sumps in the portal buildings catch all rain and wash water falling on the open approaches, the water thus being prevented from running down through the tube. A large sump at the low point in the tube catches all wash water and leakage within the covered portion of the tube. At the present time the structure is so water-tight that the daily leakage does not amount to a quart of water. This is remarkable in view of the fact that approximately 470,000 square feet of exterior surface is covered by water-bearing soil exerting great pressure. A continuous graphic chart in the office indicates the water level in the center sump.

END OF COMPLETED CONCRETE SEGMENT
Showing Collar and Inside Joint Lap Reinforcement

Traffic signals are located in the ceiling at 240 foot intervals and each signal box has three lenses, consisting of a green circular disc marked "GO," a red circular disc marked "STOP," and a rectangular yellow glass marked, "STOP ENGINE," the latter to be lighted only in those emergencies when it is desired to prevent the accumulation of carbon monoxide from a long line of halted vehicles with idling engines. All traffic signals may be controlled from an operator's desk board in either por-

[Please turn to page 109]

The ARCHITECT'S VIEWPOINT

- *The Gentle Art of Clientry*
- *Architecture and Bridges*
- *The Golden Gate Bridge*

CONTRIBUTING EDITORS
WILLIAM C. HAYS . . *San Francisco*
CARLETON M. WINSLOW . *Los Angeles*
HAROLD W. DOTY . . . *Portland, Ore.*
CHARLES H. ALDEN . . *Seattle, Wash.*

WHEN an earnest, if at times facetious, lady addresses to the two (or is it ten?) odd million readers of the *Saturday Evening Post* an essay under the title "Architect Versus Client," it is time for the guild to take notice!

"The struggle," so says Brenda Ueland, "between architect and client is as old as architecture itself. To a client an architect is the man who prevents him from having his cake and eating it too—who frustrates his taste and hurts his feelings."

Of course, the author quoted is probably right in the majority of cases. And now for the reverse side of the picture.

If we are to judge by heresay rather than by experience, in many cases, to the architect a client is a man, or (if the job happens to be a residence) a woman, who with the implied flattery of his selection and the oft-spoken assurance of confidence in his ability, proceeds to hang countless millstones about his, the architect's, neck; "who frustrates his taste and hurts his feelings;" who expects financial miracles and, failing of his expectation, misses the near miracles of creation that grow daily before his eyes; the man—or woman—who blurts out occasional, not always intended, slurs and insults in regard to the architect's intelligence, just for good measure.

* * *

IN reality, this writer does not know of very many experiences, either his own or among his friends, of these more disastrous engagements or of too fractious clients. Most of our clients are amenable to reason and our relations are satisfactory. Many of them lead to real friendships and to the measurable, practical advantage of the architect, through recommendations for further commissions and to a widening clientele. So, let us write of these finer relationships and, "altering and remodeling" a title first phrased by Whistler, tell of "The Gentle Art of Clientry." And let us particularly put forth, as examples, two notable masters in this fine human art of tact, trust and judgment:

Call Medary versus (?) Bok! Oddly enough, one party in case number one was for years the moving spirit of that very same magazine in which the Ueland article, so disparaging of clients, appeared. Now it is only a few weeks since the late Milton Bennett Medary extolled to me his client's praises, spoke of his happy association with Edward Bok in the conception, study, planning and building of the Sanctuary and Carillon, or Singing Tower at Mountain Lake, Florida, and told of how always Mr. Bok seems to have been sensitive of that reciprocal faith without which there can never be true encouragement to the architect or the evoking of his finer powers. "His lead," said Medary, "was followed by every craftsman and laborer employed on the work."

Mr. Medary's own story,* probably the last published of his writings, happily tells of his experience and modestly passes on the credit to all who shared.

Call Goodhue versus (?) Booth! For this second "case," although Bertram Grosvenor Goodhue did not himself tell me, certainly his work speaks for him in the exquisitely complete Cranbrook (Michigan) Church. It tells of George G. Booth,—giver of the splendid Cranbrook Foundation,—as client, and of his belief in the high dignity of his project, from the large phases of its conception to its every honorable, if small, detail; of his intelligent willingness to send or go, literally almost to the ends of the earth, for the needed right thing; of his selections, conjointly with the architect, of sympathetic al-

*"Architecture," April, 1929.

lies among artists and artisans. In the Sacristy they show a Pascal staff. The handle is of ivory, a medieaval masterpiece by an unknown carver. A present day artist worked a year or more to produce the wooden shaft and its mountings of gold. Other antiques in the Treasury have inspired modern emulation and the blending of old and new, all in terms of beauty.

But both of these cases cite wealthy men and great architects! Some of us might tell of other clients, less rich in money but equally endowed with inspirational sympathies. Most of our clients have good intentions. But shall we not award the Croix de Guerre, with Palms, to the client who wound up her parting compliments to an architect, on completing her first and only building experience, with this naivete, "We've not had many differences of opinion, have we? And those have only been in matters of design and taste!"

* * *

IN this column, Mr. Doty recently referred to the relationship of architects to bridge design, particularly regretting the fact that apparently no such status had been recognized in connection with certain bridges being built in the Northwest. Comes now the imminent (?) Golden Gate bridge, with committments to pay a no doubt competent engineer a no doubt proper fee for services to be rendered. Named with the Chief Engineer are other engineers and consultants, the proposed group being needed, presumably, to assure the public safety in so great an undertaking.

But if any public necessity and convenience ever call for the disfigurement of the Golden Gate with a bridge, God forbid that such a bridge be designed *only* by engineers! We have too many such structures now.

If in New York, Chicago, Philadelphia, Washington, Boston, and other wide-awake American cities, to say nothing of all Europe, there have been built bridges which are, conservatively speaking, equally economical, equally safe, but also inspiringly, buoyantly graceful, then our beauty-boasting Pacific Coast cities can hardly elect to lag behind. The wisdom of these other cities is not debatable. The only question might be as to the degree of ignorance or indifference that our people will stand for here. The engineers of the, let us hope, not too imminent Golden Gate bridge are only just now appointed. Mr. Strauss certainly knows of the fine cooperation between his confreres, Ralph Modjeski and George S. Webster, and the architect, Paul Phillippe Cret, on the safe, convenient and triumphantly beautiful Philadelphia Camden bridge, and of the joint work now being done by O. H. Ammann, Chief Engineer of Bridges of the Port of New York Authority, and his associated technical staff, including Cass Gilbert, architect. He knows also of past architectural collaborations by Henry Hornbostel and Thomas Hastings in the design of the East River bridges.

The fact that Cret has designed some of the most distinguished buildings in America (as well as leading American War Memorials in France) and that Gilbert has to his credit the Woolworth Building (still, after twenty years, the unparalleled skyscraper), did not lessen their sympathy in or adjustment to the problems of their co-working engineers.

* * *

THE work now to be done in anticipation of *any* bridge in the San Francisco Harbor will be under water, for nobody knows much about possible foundations. But as soon as the waterline is reached, it is proper to expect the beginnings of joint study of *all* phases of the problem, including the architectural.

Such an artist as James McNeil Whistler could with magic brush create "nocturnes" from Battersea Bridge and the ugly barges on the Thames, even as with his poet's pen, he transfigured other things which, in harsh daylight, were commonplaces. "When the evening mist clothes the riverside with poetry, as with a veil, and the poor buildings

[Please turn to page 109]

EDITORIAL CHAT

THAT the time has come when architects should encourage and stimulate interest in artist-craftsmanship, is the opinion of Frederick P. Keppel, president of the Carnegie Corporation of New York, who states that unless something is done soon there will be no artist-craftsmen left in this country. This is indeed, a sad confession to make for the land of Duncan Phyfe and Paul Revere, but it appears to be true, nevertheless.

"For years," Mr. Keppel is quoted as saying, "we masked our own national sterility by importing craftsmen from Europe, but congress will not let us do this any more. Three-fourths of the young people who go to art schools to learn to be easel painters or parlor sculptors, would be far happier and more useful if they could be trained as artist craftsmen, and it is a job worthy of the best brains so to deal with school education, art education, trades unionism and the other factors in the problem as to bring this about."

The architects have the best chance to make a step forward in connection with those artistic crafts which have to do with the building industry.

They furnish the only sizable group in the community that have had an all around training in the arts, who carry down in any effective way the art traditions of the past. Architects do not merely talk about art; they create it.

Manufacturers realize today that they can no longer ignore the element of design, but they do not know the profound difference between good design and bad design, and it does not seem to be anybody's particular business to enlighten them.

Here again the architect cannot be expected to do the whole job, but his profession teaches so many articles of manufacture that if he exerted the pressure he is capable of exerting, there would surely follow a change for the better in the general situation.

I HAVE heard a great many different definitions of the word modernism but this one by Louis La Beaume of St. Louis and a director of the American Institute of Architects, is not only unique but there is some good common sense in his reasoning:

As moderns, we need offer no apology for being modern. It may be our misfortune, but it can hardly be said to be our fault. We were born too late to be anything else, and it is really to our credit that we are more willing each day to admit the dreadful fact. We share our modernism too, with our contemporaries the world over.

If our old stodgy habits are changing, if we are beginning to detect a new crispness and terseness, a new simplicity and directness in the design of our little buildings as well as our big ones, we may seek for the cause in two factors. First, we are living in a crisper, speedier, smarter time and second, client and architect are more nearly one and the same than they ever were before.

The young architect of today feels and reflects the tempo of his generation. As in dress, for instance, and feminine dress particularly, yards and yards of hampering fabric which an outworn tradition sanctified, have been stripped off; as manners and music, and even morals are tending more to the point each decade, each year almost, so our architecture is stripping itself of much of the historic impedimenta which clogs and hampers its natural purpose.

If we are to regard modernism as just another fashion to be played with, as something that is going to be the rage like all the other rages, we will continue to be fashion mongers rather than architects, false to our opportunities and our obligations.

THE recent sudden demise of Milton Bennett Medary, twice president of the A. I. A., and one of the foremost members of the architectural profession, has a particular local interest because of the fact that Mr. Medary and William C. Hays, architect, of San Francisco and Professor of Architecture in the University of California were at one time associated.

It was in their first venture into life's business struggle that these two young men were awarded in competition the commission to design Howard Houston Hall at the University of Pennsylvania—the first Students' Union building, by the way, to be built in the United States.

Mr. Hays, who with many others, has been deeply moved by the passing of Mr. Medary, pays his friend and former associate this tribute:

"Milton Bennett Medary, only last April hailed American Institute of Architects Gold Medalist, has finished his work—just as some of its great tasks were beginning. He was indeed a young man, for fifty-five years of life is a short span!

"This writer speaks from the knowledge of a schoolmate, of partner in his first commission and of friend through many years.

"Milton Medary, at twenty was already great—both as artist and leader of men. In these qualities his growth was continuous, but he will best be remembered for his wise inspirational council, especially in the major architectural undertakings of the Federal Government, in which by successive appointments of Presidents Harding, Coolidge and Hoover, he so capably served."

THE ARCHITECT'S VIEWPOINT

[Concluded from page 107]

lose themselves in the dim sky, and the tall chimneys become campanili, and the warehouses are palaces in the night—Nature, who, for once, has sung in tune, sings her exquisite song to the artist alone."

But perhaps it is a fallacy that engineers, being engineers, are "born that way"— prosaic. In camp this writer has stayed awake into the wee sma' hours, listening while a poetry-loving engineer and a *ditto* lawyer recited verses innumerable, to the despair and shame of their artist and architect companions. So, might not an engineer find romance and seek for beauty, under the stimulus of such an opportunity as a Golden Gate bridge would present?

The ancient city of Rhodes is still famous for having possessed its "Wonder of the World," the *monumental* accent of the harbor entrance by its Colossus. We may now well question San Francisco's compromising poetic and *commercially valuable* symbol of her World place, the Golden Gate, for the locally utilitarian Iron Span!

WILLIAM C. HAYS, A. I. A.
San Francisco.

THE OAKLAND-ALAMEDA CONCRETE TUBE

[Concluded from page 105]

tal building or from traffic officers' stations at intervals throughout the tube.

Stations are located at 480 foot intervals from which the traffic officers may control the traffic lights, turn in a fire or police alarm to Oakland or Alameda or telephone to the operators in either portal building.

Fire extinguishers of two and one-half gallon capacity are placed in wall niches at 100 foot intervals and are available to motorists or traffic officers in case of small fires.

Hydrants are located at 240 foot intervals for the purpose of attaching hose for washing down the roadway.

All work of design and construction was in charge of George A. Posey, Chief Engineer, with Clifford M. Holland, Ole Singstad, William H. Burr and Charles Derleth, Jr., as a Board of Consulting Engineers, Henry H. Meyers as Consulting Architect, Romaine W. Meyers as Consulting Electrical Engineer and A. K. P. Harmon as Consulting Geologist. The general contractor for the principal portion of the work was the California Bridge and Tunnel Company.

CONTRACTORS LAW IN EFFECT

The new California Contractors Registration law went into effect August 14th but strict enforcement of its provisions has been deferred 30 days to allow ample time for registration.

James F. Collins, of Long Beach, has been appointed director of the new State Department of Professional and Vocational Standards and becomes registrar under the contractors' registration law. Mr. Collins was the engineer on the Belmont Shore improvement at Long Beach which involved the reclamation of a large tract of marsh land and its conversion into a high-class residential district. He has been a member of the Long Beach Harbor Board and president of the State Realty Board.

Mr. Collins' new department will administer both the contractors' registration and the engineers' license laws. Applications for licenses must be made out on blanks to be prepared by the registrar.

DRAFTSMEN WISH POSITIONS

Young man trained in architectural drafting desires position with future. Phone ARCHITECT AND ENGINEER, DOUGLAS 1828.

"ARCHITECTURAL DRAFTSMAN, 25, 7 years' experience Southern Calif., desires position with future. F. J. S., 4924-10th Ave., L. A.—UNiver. 0996."

WITH the ARCHITECTS

THEATER AND OFFICE BUILDING

The Wilshire Amusement Company will spend $500,000 on an eight story office building and theater in Beverly Hills from plans by S. Charles Lee, architect in the Petroleum Securities Building, Los Angeles. Mr. Lee also designed a group of Spanish dwellings to cost $500,000 which are to be built at Eden Hot Springs, twenty-two miles east of Riverside.

OAKLAND APARTMENT HOTEL

Messrs. Miller and Warnecke, Financial Center Building, Oakland, have completed drawings for a sixteen story Class A apartment hotel to occupy the northwest corner of 14th and Jackson streets, Oakland. Henry G. Hill is the owner and he will spend $600,000 on the improvements.

ADDITION TO APARTMENTS

Plans have been prepared by Arnold Constable, 580 Market street, San Francisco, for an eight story steel and concrete addition to the apartment building at Sacramento and Mason streets, San Francisco, for Eugene N. Fritz, Jr. The structural engineer is L. H. Nishkian. The addition will contain sixty rooms.

TWELVE STORY BUILDING

Plans are being prepared by Aleck Curlett, 1012 Union Bank Building, Los Angeles, for a $3,000,000 mercantile building of twelve stories and basement, to occupy the block bounded by Los Angeles, Wall, 7th and 9th streets, Los Angeles, for the California Needlecraft.

EMERYVILLE HOTEL

W. E. Schirmer, of Oakland, is completing plans for a three story and basement steel frame and brick store and hotel building to be built at San Pablo and Park Avenues, Emeryville, adjoining the baseball park. The building will cover ground area 125x125 feet. There will be nine stores and ninety rooms. ,

ALMADEN SCHOOL

Plans have been prepared by Rollin S. Tuttle of Los Gatos for a $45,000 classroom and auditorium for the Almaden Union High school District, Santa Clara County.

SALT LAKE CITY BUILDING

Plans have been completed by Charles F. B. Roeth, 1404 Franklin street, Oakland, and Couchot and Rosewald, associated, of San Francisco, for a new warehouse building for the Western States Grocery Company. It will be located at Salt Lake City, Utah, and will represent an expenditure of $250,000 or more. The same company is planning a similar size warehouse at Tulsa, Oklahoma.

PRINTING PLANT

Henry H. Meyers, Kohl Building, San Francisco, has awarded a contract for approximately $200,000 for the construction of a five story and basement reinforced concrete printing plant at First and Tehama streets, San Francisco, for Mrs. Margaret A. Phillips. The building is to be leased to various printing concerns.

STEEL CONTRACT AWARDED

The Golden Gate Iron Works of San Francisco have recently been awarded a contract to furnish the structural steel for a six story apartment building for John Nelson at Haight and Buchanan streets, San Francisco, from plans by H. C. Baumann.

EUREKA HOTEL

The Pickwick Stage Systems, Inc., contemplates the erection of a stage depot and hotel building at Fourth and "F" streets, Eureka, Humboldt county. Plans are being prepared by O'Brien and Peugh, San Francisco, and the improvements are expected to cost $500,000.

CONCRETE WAREHOUSE

A two story steel frame and concrete warehouse, 110x105 feet, will be erected on the southwest corner of Third and Harrison streets, Oakland, for John Diestel. The plans have been prepared by H. C. Baumann, architect of San Francisco.

BURLINGAME GARAGE

Plans have been completed by J. E. Norberg, 580 Market street, San Francisco, for a $30,000 reinforced concrete auto sales building and garage at Burlingame and to be occupied by the Packard agency.

OPENS OAKLAND OFFICE

Chester H. Treichel, formerly associated with Weeks and Day of San Francisco, announces the opening of an office for the general practice of architecture at 409-10 American Bank Building, Oakland. Manufacturers catalogues and samples are desired.

Mr. Treichel has completed plans for a twenty-one apartment building and garage in connection for Mr. and Mrs. Chris Dietz of Oakland, estimated to cost $175,000. The building will be of steel frame and concrete construction and will be of Spanish design. The interiors will be different in each apartment, ceiling treatments varying from beam to exposed rafter Spanish type construction. Electrical refrigeration and ranges are included, as well as automatic electric elevator. Spanish gardens, including pools and rockeries, are to be a feature in all courts and patios.

ADDITION TO MASONIC HOME

Plans have been completed and bids have been taken for the construction of a five story brick administration building for the Masonic Home at Decoto, Alameda County. William Mooser and Son, Nevada Bank Building, San Francisco, are the architects. The estimated cost of the improvements is $300,000.

SACRAMENTO APARTMENT HOUSE

Dean and Dean, architects of Sacramento, have completed plans for a six story concrete apartment building of the French Chateau type, to be built at Tenth and M Streets, Sacramento, for Neal S. Shoor, of San Francisco. The estimated cost is $250,000.

BEVERLY HILLS RESIDENCE

Plans are being prepared in the office of Robert H. Stacy-Judd, 6606 Sunset Boulevard, Los Angeles, for a twenty room residence to be built in Beverly Hills for T. A. Willard at an estimated cost of $150,000.

$60,000 SHOP BUILDING

The office of W. H. Weeks, Hunter-Dulin Building, San Francisco, has completed plans for a new shop building for the Taft Union High School District, Taft, Kern County, California.

OAKLAND BATTERY BUILDING

The Western Auto Supply Company has had plans completed by Claud B. Barton, architect of Oakland, for a one story building at 24th street, near Telegraph Avenue, Oakland.

LONG BEACH "HONOR AWARDS"

Report of the jury of architects appointed to judge the architectural merits of buildings of various types in Long Beach has been made public. Certificates of merit were awarded as follows:

Residences—4104 Colorado St., Hugh R. Davies, architect; Bruce Mason, owner. 2826 Cedar Ave., George D. Riddle, architect and owner.

Apartments and hotels—229 Atlantic Ave., George D. Riddle, architect; H. F. Andrews, owner.

Public buildings — School administration building, near Eighth and Locust; Warren Dedrick and E. R. Bobbe, architects.

Commercial buildings—117 W. Fifth St., one-story store, Schilling & Schilling, architects; Adolph Marx, owner. Broadlind Hotel, Broadway and Linden, Piper & Kahrs, architects; Glenn S. Clark & Co., owners. Store and apartment building at the southwest corner of First and American, Hugh R. Davies, architect; R. O. Bartow, owner.

Miscellaneous—J. J. Mottell's chapel, Third St., near Alamitos, Hugh R. Davies, architect; J. J. Mottell, Inc., owner.

More than 100 photographs were submitted in competition to the jury which was composed of David J. Witmer and Edwin Bergstrom of Los Angeles, members of Southern California Chapter, American Institute of Architects.

All the photographs submitted have been placed on exhibition at the Alamitos branch public library.

NEW HOTEL FOR SAN FRANCISCO

Another large hotel project has been consummated for San Francisco in the 18-story hostelry now being erected on the south side of O'Farrell street, 76 feet west of Leavenworth street. The cost of construction is estimated at approximately $1,200,000. The building is being built for the Paso Robles Realty Company, of which Joseph Greenbach is head. Financial arrangements have been made through the office of R. C. Hamilton & Company.

Plans by Albert H. Larsen of San Francisco call for a building having 428 hotel apartment rooms arranged in suites of service pantry, dining room, closet, bath and living room, and 90 regular hotel suites, besides two six-room apartments on the top floor of the tower.

VACAVILLE HIGH SCHOOL

Coffman, Sahlberg and Stafford of Sacramento have completed plans for a new brick high school building at Vacaville to contain classrooms and a gymnasium. The estimated cost is $65,000.

BRIDGE ENGINEERS NAMED

Four engineers of national and international reputation have been named as the Board of Engineers of the proposed new Golden Gate bridge. They are Joseph B. Strauss, Chicago; Leon S. Moisseiff and O. H. Ammann, New York and Charles E. Derleth, Jr., Berkeley.

Mr. Strauss will be chief engineer. It was his preliminary plans that have generally been considered in connection with the proposed bridge. He was among the first to declare that bridging the Golden Gate was possible and practical.

Strauss for many years has been famous as a bridge designer, and is at present one of the consulting engineers of the Hudson River bridge built by the Port of New York Authority, up to this time the longest span in the world. He is also the designer of the Longview bridge across the Columbia river below Portland.

PERSONAL

Houghton Sawyer & Co., announce the removal of their San Francisco office to 337 17th street, Oakland.

Frederick H. Meyer, architect of San Francisco, is enjoying a four months trip abroad. Mr. Meyer will be back in November.

E. Hardy Merrill and P. V. Cooper announce the opening of offices under the firm name of Merrill and Cooper, Inc., architects, engineers and contractors, 302 Hillstreet building, Los Angeles, California.

James T. Narbett, architect of Richmond, announces the removal of his office to his new home and studio at Thirty-first and Barrett streets, Richmond, California. Associated with Mr. Narbett is his son, Keith Narbett, a recent graduate of the School of Architecture, University of California, Berkeley.

TWO SMALL SCHOOL ADDITIONS

Plans have been completed by Edwards and Schary, 525 Market street, San Francisco, for additions to the Lomita Park school, near Millbrae, and the grammar school building at Belmont, both in San Mateo County.

STOCKTON BUILDING

Plans have been completed by Peter Sala, architect of Stockton, for a one story brick dyeing and cleaning plant for the Hess Dyeing and Cleaning Company of Stockton.

MUNICIPAL AUDITORIUM

Plans are being completed by J. Harold MacDowell, New York City, for Long Beach's new municipal auditorium estimated to cost $1,400,000.

PASSING OF FRANCIS T. UNDERHILL

Francis T. Underhill, architect of Santa Barbara, died August 10th at his home, "Los Alisos," in Montecito.

Mr. Underhill came of a noted family in Warwickshire, England. The American branch of the family was founded when Capt. John Underhill came to this country, settling at Boston in 1628. Francis T. Underhill was a direct descendant of the seventh generation.

In his youth Mr. Underhill was secretary to E. H. Harriman, railroad builder and manager. Later he graduated in architecture and after the World War devoted most of his time to his profession, designing some of the more prominent homes in Montecito, among them the residences of the Davits, Boldts, Pattersons and others. He also designed the Roman baths and water gardens of George Owen Knapp.

Mr. Underhill was an enthusiastic horseman and yachtsman and at one time owned the old cup defenders, Mayflower and Mischief. He was a member of the Santa Barbara Club, Union Club of New York City and the Sea Wahaka Yacht Club. He served as a volunteer in the Spanish-American War, being a captain in the New York National Guard.

Mr. Underhill was a resident of Santa Barbara for 46 years.

STRUCTURAL STEEL CONTRACTS

The Herrick Iron Works of Oakland fabricated the structural steel for the new gymnasium at St. Mary's College, John J. Donovan, architect. The Herrick Company is associated with the Moore Drydock Company in fabricating the steel frame for the new Shell Oil Building, San Francisco.

1930 DECORATIVE ARTS EXHIBIT

The San Francisco Association of Women Artists have decided to put on another exhibition of modern decorative arts in 1930. The date will be some time in April at the Women's City Club. More than 17,000 people attended the 1929 exhibition.

A. G. A. APPROVES PAYNE FURNACE

Payne Furnace & Supply Co., Inc., announce publication of Bulletin No. 6-A, pertaining to large central furnaces, which latter have received the approval of the American Gas Association Laboratory.

ARIZONA HOTEL

Plans are being prepared in the office of Frank Lloyd Wright, Los Angeles, for a $1,000,000 hotel at Chandler, Arizona, for Dr. A. J. Chandler.

COMPETITIONS

WIN NATIONAL COMPETITION

First and second prizes in the 1929 National Better Homes Architectural Competition were won by H. Roy Kelley and Harrison Clarke, both of Los Angeles. Besides the $5,000 first prize Mr. Kelley drew an honorable mention worth $100 for a second design which he had entered in the competition.

Mr. Kelley's winning design is what is known as the California type, reflecting the characteristics of the early Monterey houses and Spanish Colonial dwellings. Mr. Clarke's winning design which enriched him to the extent of $3,000, is English Georgian.

Regional competitions were held preliminary to the national competition under the auspices of thirteen newspapers in various sections of the country, the winners of these participating in the national. The *Los Angeles Times* sponsored the Southwestern States Regional competition. Three designs were selected in each region, making a total of 39 submitted in the final contest. Winners of the regional competition received $500 each, Mr. Kelley taking two prizes out of the four entries. Mr. Clarke was the other regional winner, with only one entry.

Mr. Kelley has a notable record of winnings in architectural competitions, his prize money from this source in the last two years amounting to $12,300. In addition to the $5100 prizes in the contest just closed, his winnings include the following: First prize, $1000, 1928 *House Beautiful* Competition for best seven-room house; first prize, $1000, 1927 Own Your Own Home national competition; first prize, $1250, 1927 Miami (Fla.) Biscayne Boulevard competition; first prize, $1000, California Rondith Realty Corporation competition; second prize, $1000, 1927 Miami (Fla.) Municipal Street Improvement competition, third prize, $750, 1927 *Chicago Tribune* National competition; fourth prize, $200, West Coast Lumber Association National competition.

Mr. Kelley is a graduate of Cornell University school of architecture and studied at Atelier Laloux, Ecole des Beaux Arts, Paris. He is a member of the American Institute of Architects and past president of the Los Angeles Architectural Club. He came to California eight years ago and has been practicing architecture in Los Angeles for two years.

Mr. Clarke is a graduate of the Ecole des Beaux Arts and Des Sciences Industrielles at Toulouse, France. He came to Los Angeles from San Francisco six years ago. He has won prizes in architectural competitions sponsored by the Common Brick Manufacturers' Association and the U. S. Gypsum Company.

The jury in the regional competition consisted of David J. Witmer, chairman; Myron Hunt and Pierpont Davis; Preston Wright, realtor; K. P. Lowell, general contractor, and Edgar Harrison Wileman, interior decorator.

The national jury consisted of Raymond Hood, chairman; John A. Holabird, Chicago; Benno Janssen, Pittsburgh; Albert Kahn, Detroit; H. T. Lindeberg, Ralph Walker and Frank Forster; Col. John Reed Kilpatrick, general contractor; Winold Reiss, decorator, all of New York City, and Herbert U. Nelson, realtor, of Chicago.

MAKING ARCHITECTS "PLUMBING CONSCIOUS"

That the architect who fails to see to it that plumbing and heating equipment of high quality is installed in every building he designs is not serving his clients as he should, was the point stressed by Hugh L. Wood, advertising manager of the Plumbing and Heating Industries Bureau, in an address before the Illinois Society of Architects.

Another point emphasized by Mr. Wood in his talk was this: No office building, even though it be a 40-story skyscraper with bronze doors and a marble lobby, is truly modern unless it has toilet facilities for both men and women on every floor.

Mr. Wood suggested that architects must recognize the fact that the female population of office buildings has increased from 15 per cent to 40 per cent in the last twenty years and that a tremendous loss of time results in buildings having toilets for women only on every other third or fourth floor, as is too often the case.

"In some of the smartest of new office buildings there are both facilities adjoining the office suites of some of the executives," Mr. Wood said.

"In the industrial and institutional building field, more thought is being given to hand-washing and toilet facilities. The placement and adequacy of such facilities are receiving close attention, because we are living in a day when the public demands more creature comforts.

"The day of the one-bath home is past. The average four or five-member family simply cannot live according to modern standards with a single bath. Eminent medical authorities say that every person—man, woman, and child—should spend 15 minutes every day in an essential hygienic function in the bathroom."

SOCIETY and CLUB MEETINGS

STATE CONVENTION IN OCTOBER

The annual convention of the State Association of California Architects will be held this year in Los Angeles. Last year's convention in San Francisco was a big success and members are looking forward to the 1929 meeting with enthusiasm. The convention dates are October 11 and 12 and it is expected that a large number of architects from all sections of California will attend.

The following committees have been appointed: Hall and meeting committee, Ralph C. Fleweling, chairman; F. P. Davis, John Roth, H. Palmer Sabin, Eugene Weston, Jr., and H. F. Withey.

Program and entertainment committee—Alfred W. Rea, chairman; Harris C. Allen, San Francisco; Wm. J. Dodd, Richard C. Farrell, Sumner P. Hunt, H. Roy Kelley, and G. Stanley Wilson, Riverside.

Reception and registration committee—Winsor Soule, Santa Barbara, chairman; Louis M. Crawford, Santa Maria; John F. Siebert, San Diego; G. Stanley Wilson, Riverside, and Roy C. Wilson, Santa Paula.

Publicity committee—Chas. H. Kyson, chairman; Myron Hunt, Chas. H. Biggar, Bakersfield; Winsor Soule, Santa Barbara, and Wm. H. Wheeler, San Diego, California.

LOS ANGELES ARCHITECTURAL CLUB

The regular meeting of the Los Angeles Architectural Club was held August 20th, at the Santa Monica Athletic Club. Eighty-three guests were present, including members, their families and friends. Many of those attending the meeting arrived early in the afternoon as the invitations included swimming privileges. Later, dinner was served in the attractive new dining rooms of the club.

R. A. Curry, speaker of the evening and member of the Architectural Club, gave a most interesting talk on his experiences as an architect in China. A resident there for seventeen years, he knows his Orient thoroughly, and his remarks on the modern trend in Chinese architecture were very illuminating.

Following dinner, the tables were cleared away and dancing concluded the evening's festivities.

SANTA BARBARA CHAPTER

The National body of the American Institute of Architects, has recently issued a charter to the Santa Barbara Chapter which celebrated the event by entertaining thirty or more Los Angeles architects on the last day of the Fiesta, Saturday, August 24th. The visiting architects were dined at La Fonda.

SAN FRANCISCO ARCHITECTURAL CLUB

The San Francisco club seems to be getting a new lease of life since the dues were raised. We may be able to give the members a little more for their money than they were getting in the past. After we move to new permanent quarters, promised by the Building Material Exhibit, the club will be in a position to do the things it has felt necessary but could not carry out under old conditions.

The vice president is getting in trim for his presidential duties by assuming the chair in the forced absence of President Langley. He is perfectly at home even to seeing that the wise crack box is not neglected. "Ted" is going to make an excellent president when his turn comes.

What Ira Springer cannot understand is why he is unable to rid himself of the entertainment committee job. Some one sewed that job to his coat tail years ago when he was a mere child and sewed it on so well that it won't come off.

As business manager for the publication "Esquisse" he is the entire staff. He has been given assistants in the way of an editor and assistant editor but says they are in his way. What does the paper need of an editor anyway? It really should be called the "Springer Gazette." A copy of the paper with its new cover by Kroger will be mailed to any one interested.

The Principles of Architectural Details class will begin its third term in September.

If you have not noticed the bulletin the following announcement of the change in administration has been made: Directors Romulo Blas and John E. Dinwiddie and Treasurer Monny assumed their new duties at the last directors' meeting.

The Atelier dinner was held in the North Beach district Friday night, August 23rd. A good Italian spread was enjoyed.

The club attended a dinner and lecture given by the Johns-Manville Company at the Palace hotel. A trip to the plant is scheduled for the near future.

Some young man announced at the meeting that San Francisco should get out and make a big noise about itself; that it is slipping. He did not say where it is slipping to but if the young man will remember that San Francisco is not a boom town but a well established and a steadily growing city he need not get so excited over its future. A trip around would

show him that quite a goodly section of the city is only a few years of age. San Francisco is a city that goes quietly about its business and does not do a lot of shouting over its feats of progress and when the time comes for checking up statistics you will find it well in the lead. The club also has been growing steadily without a lot of shouting.

Mr. Monny won the book prize for the highest grade in the examination held for the Principles of Architectural Details Class.

The improvements in the atelier have been completed, thanks to the efforts of "Ted" Ruegg and the boys of the atelier. A new steam heating system has been installed due to the efforts of Bill Hansen. No more freezing on class nights.

J. E. D.

NORTHERN CALIFORNIA CHAPTER, A.I.A.

A meeting of the Board of Directors of the Northern California Chapter, A. I. A., was held at the Palace Hotel, July 30th at 12:30 p. m.

Members present were Messrs. Harris Allen, Lester Hurd, James Mitchell. There not being a quorum, those in attendance met informally and discussed the following items of business:

The secretary was instructed to write the Institute in Washington that there is a general lack of understanding and interest on the part of our members to participate in the proposed new headquarters building, due to the fact that no definite proposal of the contemplated improvements has been laid before them and that until such time when the Institute places a definitely proposed building plan, budget and scheme for financing into the hands of each of its members for their information, the Northern California Chapter cannot foresee any active enthusiasm of its members to enter into the movement.

It was tentatively agreed to hold a joint meeting of the A. I. A. with the Alameda Society of Architects, the San Francisco Architectural Club, and members of the State Association of California Architects, on Friday, September the 20th, to discuss plans for the next convention of the Association.

THE HOUSE OF 1950 (?)

WE are just trying to figure out what brand this writer smokes. It may be that he is entirely rational and that it's just the inventor whose invention he so eloquently describes, who is—well read for yourself—then form your own conclusions. I am quoting from *The Architect* for June, 1929:

In Washington during the Convention we were permitted to see a most amazing design of a new idea in houses. Nothing like it has ever been seen before and if it works it is a marvel.

Buckminster Fuller, a son-in-law of J. Monroe Hewlett, related to the author of the Monroe doctrine, is the inventor of the machine-like house. Mr. Fuller was a mechanic on a battleship during the war; consequently the house looks and acts more like an armored cruiser than a one-family dwelling.

First, as to its shape. It is in the form of a hexagonal mushroom sticking up on a hollow stem and held down by guy ropes. Under the hexagon is the garage space and the whole contraption sits comfortably on a Diesel oil tank.

The stem is hollow and contains an elevator. If the Diesel oil gives out you crank it up by hand.

The outer walls are made of a transparent material, double and with a vacuum inside. So are the partitions. You are therefore always in the same temperature, winter and summer, which is to our mind just as bad as living in Miami all year round.

The floors are pneumatic and "give" to your tired dogs. Also, if the baby falls out of bed he hits the pneumatic floor and bounces right back into his crib.

There is no movable furniture. (Nor is there any in a battleship.) The shelves in the closets revolve but are always horizontal, so you never have to stoop to select a sock. No sciatica, no stomachaches, no flat feet.

Everything is done by machinery. After using a handkerchief you simply throw it into a slot and it comes out of the other end washed and ironed. So you really need only one handkerchief, and one B. V. D.

Mr. Fuller says that when he begins making these houses in quantity he can sell them by the pound, just like Henry Ford sells his cars. So when he makes a hundred thousand a year or so he can sell them at 50c a pound, delivered and set up. The house and oil tank weigh 6000 pounds so it will cost only $3000 F. O. B.

And then he proposes to have service stations at convenient places. So if you want to brighten up the home just call up the service station and a man comes over and blows up the floors a little, tightens up the elevator sheaves, spanks the baby, blacks up the kitchen stove and there you are, all ready for a year more, unless you want to buy a new model every year or so, which will be done by the best Diesel-run families.

CRESCENT CITY SCHOOL

A contract has been awarded by Norman R. Coulter, architect in San Francisco, for a new elementary school building at Crescent City, Del Norte County, for $114,000.

NEW BUILDING OF ROSSMAN CORPORATION OF CALIFORNIA, SAN FRANCISCO
Frederick H. Meyer, Architect

ROSSMAN CORPORATION NEW BUILDING

The Rossman Corporation of California is occupying its new warehouse and manufacturing plant at 1155 Harrison street, San Francisco. The building, a two story Class C structure, was designed by Frederick H. Meyer, architect, and as will be seen by the accompanying illustration, Rossman "Champleve" tile has been judiciously used for the exterior treatment. All of the tile both outside and in is the product of the Rossman Corporation. The entrance is particularly attractive and shows the possibilities of enamel and glazed tile for architectural embellishment. The vestibule is of Rossman imported Spanish tile. The Rossman Corporation will continue to have its offices and showroom in the Bankers Investment Building 49 Geary street, E. L. Bradley, manager.

CEMENT FOR SEATTLE SKYSCRAPER

Weekly shipments of Old Mission plastic waterproof Portland cement are being made to Seattle by the Pacific Portland Cement Company, for use in manufacturing Romanite stone to embellish the exterior of the new Exchange Building.

This twenty-three story structure, planned by John Graham, architect of Seattle, is now being erected by the A. W. Quist Company, general contractors; the Romanite stonework being executed by the Pacific Stone Company.

This latest addition to the Seattle skyline forms a huge L at Second avenue and Marion street, occupying a site of 21,720 square feet.

Since there is an 18½ grade from First to Second avenue, the building has two different ground floors. The street level at Second avenue is 42 feet higher than the First avenue level.

Above First avenue the main section of the Exchange Building is 19 stories while the central part of the structure is 23 stories high.

Before making a final selection of material, Architect Graham and G. E. Tucker of the Pacific Stone Company came by airplane to San Francisco to investigate the results accomplished with Old Mission plastic waterproof Portland cement on many buildings, including the new $5,000,000 Fox theater.

IS THE CONSULTING ENGINEER THREATENED WITH EXTINCTION?

By Donald Baker, C. E.

VARIOUS species of the animal and vegetable kingdom have in the past been developed, risen to prominence and then, due to changes in environment, passed out of existence. Similarly many professions and callings in the past have been brought into existence, flourished and then due to various economic causes have disappeared.

"Consulting engineer" is the term usually applied to the engineer in private practice who maintains an engineering office or organization and offers his skill, training and experience in the solution of engineering problems or performance of engineering work to the public for a fee. Sometimes when the engineer has only a small office or organization, or is excessively modest, he merely terms himself civil engineer, electrical engineer, structural engineer, etc., but the term as herein used is meant to apply to all engineers in private practice. In our fathers' time the private practitioner who hung out his shingle tackled anything from making a subdivision to building a power plant or a building, or developing a mine, but the age of specialization now keeps him fairly well within his own branch of the profession or within a sub-branch thereof, and has resulted in the virtual disappearance of the general engineering practitioner.

In past years when a water supply or irrigation project was built, a power project started or a bridge came up for consideration, a private engineer was called in and given the job with a fee fixed as a percentage of the contract price or as a flat sum. He did the work in his own office, employed his own assistants and stood to make a fair profit, provided the project was properly financed. Now every city, county and state and every kind of improvement district, such as water supply, irrigation, flood control, road, or sewage disposal, has its own engineering organization with nominal salaries for the chief engineer and assistants, and the private practitioner is only called in during the promotional period and then usually dropped, or kept on a small retainer.

When a large project was to be reported upon or investigation made, the private practitioner was called in and given the task, but now the usual procedure is to call upon some department of the city, county, state or Federal Government to make the report, the reason usually being given that these bodies do it more cheaply and in a more impartial and authoritative manner.

It would be of interest to determine whether these public bodies can or do perform this service more economically or better than do private practitioners. The writer has had some experience along this line, and it is his observation that neither costs nor character of work by these public bodies is much different than that done by a reputable private engineer. In fact, due to lower salary levels usually existing in public service, the work is usually performed by younger, less experienced men and due to the more complex organization of public offices, the total cost to the party having the work done, which includes the cost of keeping in contact with the public organization, is apt to be higher.

One next comes to the consideration of whether the loss to present-day society of the engineer in private practice will be detrimental to its progress and comfort. If the engineering profession is gradually developing into an employed class, will such a development create a better or poorer class of engineers, and will they render better or poorer service to society? If such a trend will result in poorer engineers and poorer engineering work, the profession itself should take a hand and determine just what is causing the trend and what can be done to stop it. We do not see a similar trend in any of the other professions, such as medicine, law, dentistry, and we have heard no public clamor that the governmental agencies take over their functions and perform them at cost.

Is this trend due to the members of the profession themselves, their character, ability or integrity (certainly it is not due to their exhorbitant fees charged), is it due to lack of organization within the profession or their ignorance of what is occurring, or is it due to the general progress of civilization and economic forces which decree that the consulting engineer become like a fifth wheel, of no use to society and therefor doomed to have his place taken by the salaried employe? A general knowledge of conditions throughout the United States in this respect would lead the writer to believe that this condition does not exist in any other section to the degree it does in California, although it is being approached in other sections. No remedy is offered herein, but it is hoped that this article will arouse some thought and discussion, and that out of same some answer to the question used as the title to this article will appear, and also, if the answer be in the negative, some course of action suggested which will serve to perpetuate the species.

WORKMEN'S COMPENSATION INSURANCE

The following summary gives the essentials of the amendments to the California Workmen's Compensation Insurance and Safety Act, which became effective August last:

The maximum compensation was increased from $20.83 a week to $25 a week. This addition will govern both permanent and temporary injuries where the wages earned by the injured are sufficient to increase the compensation. The death benefit of $5,000 was not changed.

An amendment provides for a second-injury fund. An example of this is the man who loses an eye in boyhood, and the other eye while at work many years afterward. Under the new amendment, the industry will be charged only for the second eye. The life pension necessary for the totally-blind man will come out of the second-injury fund, as will all other second-injury awards which involve very serious permanent disabilities. The latter is built up as an outcome of charging the employer, or his insurance carrier, $300 each time an employee is killed who leaves no dependants.

The Industrial Accident Commission was given safety jurisdiction over the state and its political subdivisions. This amendment was introduced simply to prevent any question that might come up in the future, although, naturally, the state and its political subdivisions have always co-operated with the Commission.

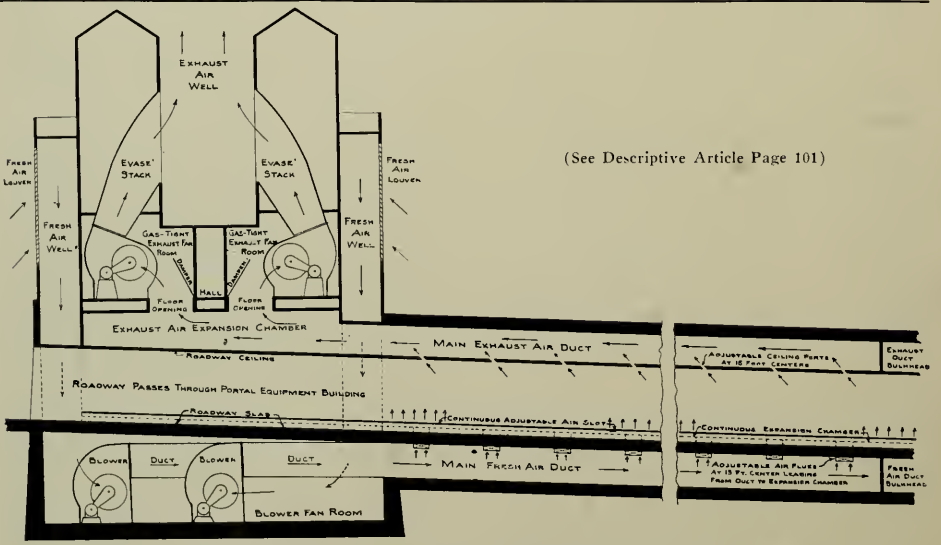
The Industrial Accident Commission has power to suspend or disbar attorneys, for good cause, from appearing before the commission, such suspension or disbarment to be subject to appeal to the courts.

An amendment gives the commission authority to appoint not more than two deputy commissioners, to be selected from the staff, one of whom will have the right to sign routine documents requiring two signatures under the law. The other signature must be that of a Commissioner. The purpose of this amendment is to prevent delay in the event one of the Commissioners is away from the main office.

GOLD AND BLACK MARBLE

The Vermont Marble Company announces a new decorative marble which is quarried in the West and is being featured for Western building. It is called Montana Black and Gold. The material has a very delicate gold vein on a jet black background. It takes a high polish and structurally is said to be sounder than the average decorative marble. A recent installation is in the Angeles Abbey Mausoleum at Compton, California.

(See Descriptive Article Page 101)



ESTUARY SUBWAY CONTINUOUS TRANSVERSE VENTILATION SYSTEM

BOOK REVIEWS

By Edgar A. Kierulff

BUILDING CONSTRUCTION (Types of Construction, Materials and Cost Estimating) — By Whitney Clarke Huntington, C. E. Published by John Wiley & Sons, Inc., New York. Price $6.00 net.

An excellent handbook dealing with all the modern problems of building construction, as covered by the title. It may be used in supplementary work in structural design for junior and senior students in civil engineering. It is fully illustrated.

THE IDEALS OF ENGINEERING ARCHITECTURE. By Charles Evans Fowler. Published by the Gillette Publishing Co., 221 E. 20th St., Chicago, Illinois. Price $4.00 net.

A book in which the author expresses himself forcefully and ably on the aims and ideals of engineering architecture. Mr. Fowler's book opens a new field of thought on this subject and at the same time gives the reader all the technical details so necessary for the student. It is well illustrated from actual photographs, as well as with drawings, plans and perspectives. This book should be most acceptable to the architect, as well as to the structural and civil engineer.

INTRODUCTORY HANDBOOK TO THE STYLES OF ENGLISH ARCHITECTURE — By Arthur Stratton, F. S. A., F. R. I. B. A. Published by J. B. Lippincott, Philadelphia. Price $1.00.

A very slender little volume, rich in details, most entertaining to the architect interested in English architecture. It is copiously illustrated with drawings and teems with authentic information on the architecture of England in the middle ages. It is the type of book one would like to slip in his pocket when contemplating a journey in England and one to be referred to at all times.

EARLY CHURCH ART IN NORTHERN EUROPE—By Josef Strzygowski. Published by Harper Bros, New York. Price $8.00.

One of the most delightful books on church architecture that has ever come to the writer's desk. The author shows in his book the interest and pleasure which accompanied his researches and has opened a splendid field in a type of church architecture of which little is known.

The illustrations from well taken photographs are very beautiful and the sketches and details most interestingly rendered. The architect in search of the unusual in reference books can be certain of finding his wishes fulfilled in this book.

STEEL SQUARE POCKET BOOK—By Dwight L. Stoddard. Fourth edition revised. Published by the Scientific Book Corporation, 15 East 26th St., New York. Price $1.00.

A small book which can be readily slipped into a pocket and containing a practical and handy method of using the carpenter's steel square. It should be of great value to carpenters and builders in general. Contains numerous clearly drawn illustrations and among the chapters may be noted those on Hipped Roofs, Laying Out Common Rafters, Octagonal and Hexanonal Roofs, Roofs of Uneven Pitch and Miscellaneous Roof Problems. The opening chapters deal with Practical Applications of the Square.

SOUNDING STONES OF ARCHITECTURE—By Philip N. Yountz, M. A., A. I. A. Published by W. W. Norton & Co., 70 Fifth Ave., New York; Price $2.50.

An excellent philosophy of architecture soundly written, but with attention to beauty of description, depicting the symbolism of this great force in man, the creative art of construction exemplified in durable materials. Some of the illuminating and equally interesting chapters have for their titles the following headings: Towers of Babel, Visual History, Tools of Stone, Language Without Words, Pure Art and others of like fascinating titles. These chapters treat respectively with definition, symbolism, function, style and design. Structure, construction and aesthetics are also dealt with under their respective chapters. The thinking architect of today will find information, have his interest aroused and at the same time find relaxation in this delightful small book.

HAUSER HAS NEW SASH

The Hauser Window Company, 1370 Harrison street, San Francisco, announces a considerable demand for the Hauser Multiple Operated Awning Type Window, several large school houses in the state having recently installed this type of window. Besides being ideal for ventilation it is said to be very easily operated and by the use of disengaging clutches, the lower sash may be operated separately, or two, three or four sash may be operated at the same time.

Program of the Second Annual Convention *of* State Association *of* California Architects

Los Angeles, October 11 - 12

9:30-10:30 A. M.—Registration of Delegates
9:30-10:30—Meeting of State Executive Board
10:30 A. M.-12:10 P. M.—OPENING SESSION
A. M. EDELMAN, *Chairman*
10:30 A. M.—Chairman's Address
10:40 A. M.—Address of Welcome
J. C. AUSTIN, *Vice President*
Los Angeles Chamber of Commerce
10:50 A. M.—Appointment of Committees:
Credentials
Resolutions
Nominations
1930 Convention
11:00 A. M.—Report of Executive Board
11:50 A. M.—Report of Treasurer
12:00 Noon—Announcements
12:10—Adjournment
12:30 P. M.-2:00 P. M.—LUNCHEON
HARRIS ALLEN, *Chairman*
1:15 P. M.—Address: "Uniform Building Code"
—Edwin Bergstrom

2:15-5:15—AFTERNOON SESSION
A. M. EDELMAN, *Chairman*
2:15 P. M.—Report of Professional Betterment Committee.
LESTER W. HURD, *Chairman*,
Northern Section
VINCENT PALMER, *Chairman*,
Southern Section
Discussion from the floor
Resolution
3:15 P. M.—Report of Educational Committee:
E. GEOFFREY BANGS, *Chairman*
Northern Section
SUMNER M. SPAULDING, *Chairman*
Southern Section
Discussion from the floor
Resolution
4:15 P. M.—Unfinished Business
4:30 P. M.—Addresses
Earthquake Resisting Construction
Elastic Construction,
H. J. BRUNNIER
5:15 P. M.—Adjournment

6:30 P. M.—BANQUET
JOHN J. DONOVAN, *Toast Master*
Theme for the evening to be "Ideals"—Talks to be limited to 5 minutes except as noted
"The Ideal Established Architect".....TALK BY H. ROY KELLEY
"The Ideal Young Architect".....TALK BY SUMNER P. HUNT
"The Ideal Contractor".....TALK BY ALBERT J. EVERS
"The Ideal Editor".....TALK BY WILLIAM I. GARREN
"The Ideal Banker".....TALK BY A. R. WALKER
"The Ideal City"—(20 minutes).....TALK BY HARRY CARR
"The Ideal Client".....TALK BY WILL ROGERS
Film—"The Future Development of Washington".....CHARLES H. CHENEY
Lantern Slides, shown and explained

9:30 A. M.-12:00 Noon—Closing Session
CHARLES ROETH, *Chairman*
9:30 A. M.—Report of Publicity Committee:
HARRIS C. ALLEN, *Chairman*,
Northern Section
CHAS. H. KYSON, *Chairman*,
Southern Section
Discussion from the floor
Resolution
10:30 A. M.—Unfinished Business
New Business
Selection of 1930 Convention City

NOTE—Program subject to last moment changes.

11:15 A. M.—Address "The New Contractors and Engineers' Laws and their Relation to the Architect"
11:40 A. M.—Report of Legislative Committee:
Chairman, Northern Section
WM. RICHARDS, *Chairman*
Southern Section
Discussion from the floor
Resolution
12:00 Noon—Adjournment
2:30-4:30 P. M.—SIGHT SEEING TOUR
4:30 P. M.—BARBECUE AND ENTERTAINMENT AT UPLIFTERS' CLUB
WM. J. DODD, *in charge*

Estimator's Guide

Giving Cost of Building Materials, Wage Scale, Etc.

Amounts quoted are figuring prices and are made up from average quotations furnished by material houses to three leading contracting firms of San Francisco.

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and southern part of the state. Freight cartage, at least, must be added in figuring country work.

Overtime in wage scale should be credited with time and a half, Sunday and holidays double.

Bond—1½% amount of contract.

Brickwork—
Common, $33 to $35 per 1000 laid.
Face, $100 per 1000 laid.
Brick Steps, using pressed brick, $1.10 lin. ft.
Brick Walls, using pressed brick on edge, 75c sq. ft. (Foundations extra.)
Brick Veneer on frame buildings, 1.00 sq. ft.
Enamel, $120.00 per 1000 f.o.b. cars.
Common, f.o.b. cars, $14.50 plus cartage.
Face, f.o.b. cars, $55.00 per 1000, carload lots.

HOLLOW TILE FIREPROOFING (f.o.b. cars in carload lots).

3x12x12 in.	$ 96.00 per M
4x12x12 in.	108.00 per M
6x12x12 in.	156.00 per M
8x12x12 in.	240.00 per M

Rebate 10% cash 10 days.

HOLLOW BUILDING TILE (f.o.b. cars in carload lots).

8x12x5½	$100.00
6x12x5½	74.00

Composition Floors — 18c to 30c per sq. ft. In large quantities, 18c per sq. ft. laid.
Rubber Tile—65c per sq. ft.

Terazzo Floors—50c per sq. ft.
Terazzo Steps—$1.50 per lin. ft.
Mosaic Floors—80c per sq. ft.

Concrete Work (material at San Francisco bunkers) — Quotations below 2000 lbs. to the ton.

No. 3 rock, at bunkers	$1.40 per ton
No. 4 rock, at bunkers	1.40 per ton
Eliott pea gravel, at bnkrs.	1.40 per ton
Washed gravel, at bnkrs.	1.40 per ton
Eliott top gravel, at bnkrs.	1.40 per ton
City gravel, at bunkers	1.40 per ton
River sand, at bunkers	1.00 per ton
Delivered bank sand	1.00 cu. yd.

Note—Above prices are subject to discount of 10c per ton on invoices paid on or before the 15th of month, following delivery.

SAND
Del Monte, $1.75 to $3.00 per ton.
Fan Shell Beach (car lots, f.o.b. Lake Majella), $2.75 to $4.00 per ton.
Cement, $2.44 per bbl. in paper sks.
Cement (f.o.b. Job, S. F.) $2.64 per bbl.
Cement (f.o.b. Job, Oak.), $2.64 per bbl.
Rebate of 10 cents bbl. cash in 15 days.
Atlas "White" .....$ 8.50 per bbl.
Forms, Labors average 22.00 per M.
Average cost of concrete in place, exclusive of forms, 28c per cu. ft.
4-inch concrete basement floor.....13c to 14c per sq. ft.
4½-inch concrete basement floor.....14c to 15c per sq. ft.
2-inch rat-proofing....6½c per sq. ft.
Concrete Steps.....$1.26 per lin. ft.

Dampproofing—
Two-coat work, 20c per yard.
Membrane waterproofing—4 layers of saturated felt, $5.50 per square.
Hot coating work, $2.25 per square.

Electric Wiring — $3.00 to $9.00 per outlet for conduit work (including switches).
Knob and tube average $2.25 to $5.00 per outlet, including switches.

Elevators—
Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing an automatic elevator in four-story building, $2600; direct automatic, about $2500.

Excavation—
Sand, 70 cents; clay or shale, $1.25 per yard.
Teams, $10.00 per day.
Trucks, $21 to $27.50 per day.
Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

Fire Escapes—
Ten-foot balcony, with stairs, $70.00 per balcony.

Glass (consult with manufacturers)—
Double strength window glass, 15c per square foot.
Quartz Lite, 50c per square foot.
Plate, 75c per square foot.
Art, $1.00 up per square foot.
Wire (for skylights), 27c per square foot.
Obscure glass, 25c per square foot.
Note—Add extra for setting.

Heating—
Average, $1.80 per sq. ft. of radiation, according to conditions.

Iron—Cost of ornamental iron, cast iron, etc., depends on designs.

Lumber (prices delivered to bldg.site)
Common, $26.00 per M (average).
Common O. P. select, average, $34.00 per M.

1 x 6 No. 3—Form lumber	$21.00 per M
1 x 4 No. 1 flooring	45.00 per M
1 x 4 No. 2 flooring	42.00 per M
1 x 4 No. 3 flooring	35.00 per M
1 x 6 No. 2 and better flooring	43.00 per M
1¼ x 4 and 6 No. 2 flooring	50.00 per M

Slash grain—

1 x 4 No. 2 flooring	$37.00 per M
1 x 4 No. 3 flooring	35.00 per M
No. 1 common run to T. & G.	36.00 per M
Lath	5.50 per M

Shingles (add cartage to prices quoted)—

Redwood, No. 1	$ .90 per bdle.
Redwood, No. 2	.75 per bdle.
Red Cedar	.90 per bdle.

Hardwood Flooring (delivered to building)—

13-16x3¼" T & G Maple			$135.00 M ft.
1 1-16x2¼" T & G Maple			145.50 M ft.
⅞x3½ sq. edge Maple			132.50 M ft.
	13-16x2¼" T&G	⅝x2" T&G	5-16x2" Sq. Ed.
Clr. Qtd. Oak	$220.00 M	$160.00 M	$178 M
Sel. Qtd. Oak	150.00 M	122.00 M	131 M
Clr. Pla. Oak	155.00 M	110.00 M	113 M
Sel. Pla. Oak	132.00 M	79.00 M	97 M
Clear Maple	147.00 M	101.00 M	

Laying & Finishing 16c ft. 15c ft. 13c ft.
Wage—Floor layers, $9.00 per day.

Building Paper—

1 ply per 1000 ft. roll	$4.00
2 ply per 1000 ft. roll	6.00
3 ply per 1000 ft. roll	9.25
Sash cord com. No. 7	$ 1.05 per 100 ft.
Sash cord com. No. 8	1.20 per 100 ft.
Sash cord spot No. 7	1.75 per 100 ft.
Sash cord spot No. 8	1.10 per 100 ft.
Sash weights cast iron	57.00 ton

Nails, $3.25 base.
Belgian nails, $3.00 base.

Millwork—
O. P. $87.00 per 1000. R. W., $100.00 per 1000 (delivered).
Double hung box window frames, average, with trim, $7.00 and up, each.
Doors, including trim (single panel, 1¾ in. Ore. pine) $7.50 and up, each.
Doors, including trim (five panel, 1¾-in. Oregon pine) $6.50 each.
Screen doors, $3.50 each.
Patent screen windows, 30c a sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., $7.00 each.
Dining room cases, $8.00 per lineal foot.
Labor—Rough carpentry, warehouse heavy framing (average), $12.00 per M.
For smaller work, average, $25 to $32 per 1000.

Marble—(Not set), add 50c to 65c per ft. for setting.

Alaska	$1.40 sq. ft.
Columbia	1.40 sq. ft.
Golden Vein Yule Colo.	1.70 sq. ft.
Pink Lepanto	1.50 sq. ft.
Italian	1.75 sq. ft

Tennessee ..... 1.70 sq. ft.
Verde Antique ..... 3.00 sq. ft.

NOTE—Above quotations are for 7/8 inch wainscot in large slabs f.o.b. factory. Prices on all other classes of work should be obtained from the manufacturers.

Floor Tile—Set in place.

Verde Antique .....$2.75 sq. ft.
Tennessee ..... 1.60 sq. ft.
Alaska ..... 1.35 sq. ft.
Columbia ..... 1.45 sq. ft.
Yule Colorado ..... 1.45 sq. ft.
Travertine ..... 1.60 sq. ft.

Painting—

Two-coat work .....30c per yard
Three-coat work .....40c per yard
Whitewashing ..... 4c per yard
Cold Water Painting ..... 8c per yard
Turpentine, 77c per gal. in cans and 72c per gal. in drums.
Raw Linseed Oil—$1.17 gal. in bbls.
Boiled Linseed Oil—$1.20 gal. in bbls.

Carter or Dutch Boy White Lead in Oil (in steel kegs)

Per. Lb.
1 ton lots, 100 lbs. net weight 12¼c
500 lb. and less than 1 ton lots 12½c
Less than 500 lb. lots.....13c

Dutch Boy Dry Red Lead and Litharge (in steel kegs)

1 ton lots, 100 lb. kegs net weight 12½c
500 lb. and less than 1 ton lots 12½c
Less than 500 lb. lots.....13c

Red Lead in Oil (in steel kegs)

1 ton lots, 100 lbs. net weight 13¾c
500 lb. and less than 1 ton lots 14c
Less than 500 lb. lots 14½c
Note—Accessibility and conditions cause wide variance of costs.

Patent Chimneys—

6-inch.....$1.00 lineal foot
8-inch..... 1.50 lineal foot
10-inch..... 1.85 lineal foot
12-inch..... 2.10 lineal foot

Pipe Casings — 14" long (average), $5.00 each.

Plastering—Interior—

Yard
1 coat, brown mortar only, wood lath..$0.40
2 coats, lime mortar hard finish, wood lath ..... .62
2 coats, hard wall plaster, wood lath.... .65
3 coats, metal lath and plaster 1.00
Keene cement on metal lath 1.25
Ceilings with ¾ hot roll channels metal lath ..... .67
Ceilings with ¾ hot roll channels metal lath plastered..... 1.40
Shingle partition ¾ channel lath 1 side .62
Single partition ¾ channel lath 2 sides 2 inches thick..... 2.20
4-inch double partition ¾ channel lath 2 sides..... 1.30
4-inch double partition ¾ channel lath 2 sides plastered..... 2.45

Plastering—Exterior—

Yard
2 coats cement finish, brick or concrete wall $1.00
2 coats Atlas cement, brick or concrete wall 1.25
3 coats cement finish No. 18 gauge wire mesh 1.75
3 coats Atlas finish No. 18 gauge wire mesh 2.05
Wood lath, $6.00 per 1000.
2.5-lb. metal lath (dipped) ..... .17
2.5-lb. metal lath (galvanized) ..... .20
3.4-lb. metal lath (dipped) ..... .22
3.4-lb. metal lath (galvanized) ..... .27
¾-inch hot roll channels, $45 per ton.
Hardwall plaster, $15.40 ton; $12.95 in paper sacks (rebate 15c sack).
Finish plaster, $16.40 ton; in paper sacks, $13.85 (rebate 10c sack).
Dealer's commission, $1.00 off above quotations.
Hydrate Lime, $19.50 ton.
Lime, f.o.b. warehouse, $2.25 bbl.; cars, $2.15
Lime, bulk (ton 2000 lbs.), $16.00 ton.
Wall Board 5 ply, $43.00 per M.

Composition Stucco—$1.60 to 2.00 per sq. yard (applied).

Plumbing—

From $60.00 per fixture up, according to grade, quantity and runs.

Roofing—

"Standard" tar and gravel, $5.25 per square for 30 squares or over.
Less than 30 squares, $5.50 per sq.
Tile, $19.00 to $35.00 per square.
Redwood Shingles, $11.00 per square in place.
Cedar Shingles, $10.50 sq. in place.
Recoat, with Gravel, $3.00 per sq.

Sheet Metal—

Windows—Metal, $1.85 a sq. foot.
Fire doors (average), including hardware, $2.15 per sq. foot.

Skylights—

Copper, $1.35 sq. ft. (not glazed).
Galvanized iron, 30c sq. ft. (not glazed).

Stone—

Granite, average, $6.00 sq. foot in place.
Sandstone, average Blue, $3.50; Boise, $2.60 sq. ft. in place.
Indiana Limestone, $2.60 per sq. ft. in place.

Store Fronts—

Copper sash bars for store fronts, corner, center and around sides, will average 75c per lineal foot.
Note—Consult with agents.

Steel Structural—$97.50 per ton (erected). This quotation is an average for comparatively small quantities
Light truss work higher; plain beam and column work in large quantities, less.
Cost of steel for average building (erected), $93.00 per ton.

Reinforcing—

Base price for car load lots, $2.75 100 lbs., f.o.b. cars.
Average cost to install, $23 per ton.

Steel Sash—

All makes, from S. F. stock, 20c to 35c per square foot.
All makes, plant shipment, 22c to 35c per square foot.
(Includes mullions and hardware.)

Tile—White glazed, 75c per foot, laid.
White floor, 75c per foot, laid.
Colored floor tile, $1.00 per ft. laid.
Promenade tile, 80c per sq. ft., laid.

1929 WAGE SCHEDULES FOR SAN FRANCISCO BUILDING TRADES

EFFECTIVE APRIL 1

Craft	Journeymen Mechanics
Asbestos workers	$ 8.00
Bricklayers	11.00
Bricklayers' hodcarriers	7.00
Cabinet workers, (shop)	7.50
Cabinet workers, (outside)	9.00
Carpenters	9.00
Cement finishers	9.00
Electric workers	9.00
Electrical fixture hangers	8.00
Elevator constructors	10.00
Elevator helpers	7.00
Engineers, portable and hoisting	9.00
Glass workers	8.50
Hardwood floormen	9.00
Housemovers	8.00
Housesmiths, arch. iron, skilled all branches	9.00
Housesmiths, arch. iron, not skilled all branches	8.00
Housesmiths, reinforced concrete, or rodmen	9.00
Iron workers (bridge & structural) including engineers	11.00
Laborers, building (6-day week)	5.50
Lathers, channel iron	10.00
*Lathers, all other	8.50
Marble setters	10.00
Marble helpers	6.00
Marble cutters and copers	8.00
Marble bed rubbers	7.50
Marble polishers and finishers	7.00
Millmen, planing mill department	7.00
Millmen, sash and door	6.00
Millwrights	8.00
Model makers	10.00
Model casters	9.00
Mosaic and Terrazzo workers	9.00
Mosaic and Terrazzo helpers	6.00
Painters	9.00
Painters, varnishers and polishers (shop)	7.50
Painters, varnishers and polishers (outside)	9.00
Pile drivers and wharf builders	9.00
Pile drivers engineers	10.00
Plasterers	11.00
Plasterers' hodcarriers	7.50
Plumbers	10.00
Roofers, composition	8.00
Roofers, all others	8.00
Sheet metal workers	9.00
Sprinkler fitters	10.00
Steam fitters	10.00
Stair builders	9.00
Stone cutters, soft and granite	8.50
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Stone carvers	8.50
Stone derrickmen	9.00
Tile setters	10.00
Tile helpers	6.00
Auto truck drivers, less than 2500 lbs.	5.50
Auto truck drivers, 2500 to 4500 lbs.	6.00
Auto truck drivers, 4500 to 6500 lbs.	6.50
Auto truck drivers, 6500 lbs. and over	7.00
General teamsters, 1 horse	5.50
General teamsters, 2 horses	6.00
General teamsters, 4 horses	6.50
Plow teamsters, 4 horses	6.50
Scraper teamsters, 2 horses	6.00
Scraper teamsters, 4 horses	6.00

*On wood lath if piece rates are paid they shall be not less than such an amount as will guarantee, on an average day's production of 1600 lath, the day wage set forth.

Eight hours shall constitute a day's work for all Crafts except as otherwise noted.

Plasterer's hodcarriers, bricklayers' hodcarriers, roofers, laborers, and engineers, portable and hoisting, shall start 15 minutes before other workmen, both at morning and noon.

Five and one-half days, consisting of eight hours on Monday to Friday inclusive, and four hours on Saturday forenoon shall constitute a week's work.

Overtime shall be paid as follows: For the first four hours after the first eight hours, time and one-half. All time thereafter shall be paid double time. Saturday afternoon (except laborers), Sundays from 12 midnight Saturday, and Holidays from 12 midnight of the preceding day shall be paid double time. On Saturday afternoon laborers, building, shall be paid straight time.

Where two shifts are worked in any twenty-four hours shift time shall be straight time. Where three shifts are worked, eight hours pay shall be paid for seven hours on the second and third shifts.

All work shall regularly be performed between the hours of 8 A. M. and 5 P. M., provided, that in emergencies or where premises cannot be vacated for work by mechanics until the close of business, men then reporting for work shall work at straight time; but any work performed after midnight shall be paid time and one-half except on Saturday afternoons, Sundays, and holidays, when double time shall be paid.

Recognized holidays to be New Year's Day, Decoration Day, Fourth of July, Labor Day, Admission Day, Thanksgiving Day and Christmas Day.

Men ordered to report for work, for whom no employment is provided, shall be entitled to two hours pay.

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ACOUSTIC CORRECTIONS
Johns-Manville Company, all principal Coast cities.
R. Guastavino Co., represented by Albert B. Mann, Engineer, 417 Crocker Bldg., San Francisco.
"Acousti-Celotex," Western Asbestos Magnesia Co., 25 South Park, San Francisco.
American Hair & Felt Co., 1615 Ditman St., Los Angeles.

AIR COMPRESSORS
Dayton, sold by Simonds Machinery Co., 816 Folsom Street, San Francisco; 520 East 4th Street, Los Angeles.

ACOUSTIC DEADENING
American Hair & Felt Co., 1615 Ditman St., Los Angeles.

ART METAL
Federal Ornamental Iron and Bronze Co., 16th St., and San Bruno Ave., San Francisco.
Michel & Pfeffer Iron Works, 1415 Harrison Street, San Francisco.

ARCHITECTURAL ENCAUSTIC TILE
Mangrum-Holbrook Co., Inc., 1235 Mission Street, San Francisco.

ARCHITECTURAL BRONZE
Elevator Supplies Company, Inc., Hoboken, N. J., 186 Fifth Street, San Francisco; 1120 S. Hope Street, Los Angeles.
Zouri Drawn Metals Company, Chicago Heights, Illinois. (Zouri Company of California, 1208 Howard St., San Francisco.

ARCHITECTURAL TERRA COTTA
N. Clark & Sons, 116 Natoma Street, San Francisco.
Gladding, McBean & Co., 660 Market St., San Francisco; 621 S. Hope St., Los Angeles; 1500 First Ave. South, Seattle; 454 Everett St., Portland; 15th and Dock Sts., Tacoma, and 22nd and Market Sts., Oakland
W. S. Dickey Clay Mfg. Co., San Francisco and Oakland.

ASBESTOS MATERIALS
Johns-Manville, Inc., of California, 159 Montgomery St., San Francisco. Coast Factory at Pittsburg, Calif.
Western Asbestos Magnesia Company, 25 South Park, San Francisco.
Jones Bros. Asbestos Supply Co., Inc., 500 Second St., San Francisco.

ASPHALT ROOFING
El Rey Products Company, 1633 San Pedro St., Los Angeles; 960 Seventh St., San Francisco; 65 Columbia St., Seattle; 850 E. Taylor St., Portland.
The Paraffine Companies, Inc., San Francisco, Los Angeles, Portland and Seattle.

AUTOMATIC THERMOSTAT CONTROLS
Majestic Electric Appliance Company, 590 Folsom Street, San Francisco.

BEDS—WALL—CONCEALED, ETC.
Marshall & Stearns Co., Phelan Bldg., San Francisco.

BLACKBOARDS
C. F. Weber & Co., 601 Mission St., San Francisco, Los Angeles and Reno, Nevada.

BOILERS
Kewanee Boiler Co., 635 Mission St., San Francisco.
Kewanee Water Supply System, Simonds Machinery Co., 816 Folsom St., San Francisco.

BONDS FOR CONTRACTORS
Bonding Company of America, Kohl Bldg., San Francisco.
Globe Indemnity Co., 444 California St., San Francisco.
Fidelity & Casualty Co. of New York, Balfour Bldg., San Francisco.
Standard Accident Insurance Company, California Commercial Union Building, San Francisco.

BRASS GOODS, CASTINGS, ETC.
H. Mueller Manufacturing Co., 1072 Howard St., San Francisco.

BRICK—FACE, COMMON, ENAMEL, GLAZED
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McNear Brick Company, Monadnock Bldg., San Francisco.
Richmond Pressed Brick Co., Sharon Bldg., San Francisco. Plant at Richmond, Cal.
Cannon & Co., Sacramento; 517 Call Bldg., San Francisco; Builders Exchange Bldg., Oakland.

BRICK AND CEMENT COATING
The Paraffine Companies, Inc., 475 Brannan St., San Francisco.

BUILT-IN FURNITURE
Built-in Fixture Company, 2608 San Pablo Ave., near Dwight Way, Berkeley, and Hoosier Store, Pacific Bldg., San Francisco.

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"Corbin" hardware, sold by Palace Hardware Company, 581 Market St., San Francisco.
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Atlas White, manufactured by The Atlas Portland Cement Company, 25 Broadway, New York.
Hydro-plastic cement, manufactured by Southwestern Portland Cement Company, 356 S. Spring St., Los Angeles
Monolith Plastic Waterproof Cement Company, manufactured by Monolith Portland Cement Company, Bartlett Building, Los Angeles; 741 Monadnock Bldg., San Francisco; 1207 Public Service Bldg., Portland.
Pacific Portland Cement Co., Hunter-Dulin Bldg., San Francisco, also Portland, Ore., Los Angeles and San Jose, Calif
Santa Cruz Portland Cement Company, Crocker Building, San Francisco.

CEMENT EXTERIOR WATERPROOF PAINT
Bass-Heuter Paint Company, San Francisco, Los Angeles, Portland, Seattle.
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CONCRETE OR CEMENT HARDENER
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CONCRETE REINFORCING
Soule Steel Company, Rialto Building, San Francisco.
Gunn, Carle & Co., Inc., 444 Market St., San Francisco.
Clinton Welded Wire Fabric, Wickwire Spencer Steel Corporation, 144 Townsend St., San Francisco.
Pacific Coast Steel Company, Hunter-Dulin Bldg., San Francisco.
National Steel Fabric Company, 274 Brannan St., San Francisco, and 1736 Naud St., Los Angeles.

CONTRACTORS—GENERAL—
Adam-Arras Co., 185 Stevenson St., San Francisco.
F. R. Siegrist Co., 604 Williams Bldg., San Francisco.
Spivock & Spivock, Hobart Building, San Francisco, and 412 Water St., Oakland.
Vogt & Davidson, Inc., 185 Stevenson St., San Francisco, and Builders Exchange, Oakland.
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Richards-Wilcox Mfg. Co., The Ewing-Lewis Co., Hunter-Dulin Bldg., San Francisco.

DOORS—FIREPROOF
Detroit Steel Products Company, 251 Kearny St., San Francisco.
Kinnear Mfg. Co., represented in San Francisco by Pacific Materials Co., 444 Market Street.

DOORS—FREIGHT ELEVATOR
The Peelle Co., rooklyn, N. Y., represented by Persons Dwan & Co., 534 Sixth Street, San Francisco.

DOORS—HOLLOW METAL
Fire Protection Products Co., 1101 Sixteenth St., San Francisco.
Dahlstrom Metallic Door Co., Jamestown, N. Y., Coast plant, 3350 E. Slauson Ave., Los Angeles.
Forderer Cornice Works, Potrero Ave., San Francisco.

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Jas. G. Wilson Corporation, 605 Market St., San Francisco.

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WHAT'S WHAT IN MATERIALS

WHO'S WHO AMONG CONTRACTORS

ALPHABETICAL LIST OF ADVERTISERS ON PAGE 125

ELECTRICAL CONTRACTORS
Butte Electrical Equipment Company, 2014 Folsom St., San Francisco.
Charles A. Langlais, 472 Tehama St., San Francisco.
Ne Page, McKenny Co., 589 Howard St., San Francisco, Oakland, Los Angeles, Seattle.
H. C. Read & Co., 389 Clementina St., San Francisco.

ENGINEERS—CONSULTING, ELECTRICAL, MECHANICAL
Hunter & Hudson, 41 Sutter Street, San Francisco.
Charles T. Phillips Company, Bank of Italy Bldg., San Francisco, and Roberts Bldg., Los Angeles.

ELECTRIC AIR AND WATER HEATERS
Majestic Electric Appliance Company, 590 Folsom Street, San Francisco.
Wesix Heater Company, Rialto Building, San Francisco.
Sandoval Sales Company, 415 Jessie Street, San Francisco.
Weir Electric Appliance Company, 26th and Adeline Streets, Oakland.

ELECTRIC REFRIGERATION
General Electric Refrigerator, George Belsey Company, Los Angeles, Distributor, Stores in Los Angeles, Pasadena, Glendale, Hollywood, Santa Monica and Monrovia; L. H. Bennett, Northern California Distributor, 2112 Broadway, Oakland; 318 Stockton St., San Francisco.
Wayne Home Equipment Company, Fort Wayne, Indiana, represented by Hill and Stoops, 4214 Broadway, Oakland, Calif.

ELECTRICAL SUPPLIES AND EQUIPMENT
The Frink Company, 10th Ave. at 24th St., New York; 77 O'Farrell St., San Francisco
Drendell Electrical & Mfg. Co., 1345 Howard St., San Francisco.
Frank Adam Electric Company, 340 Fremont St., San Francisco, and 1127 Wall Street, Los Angeles; general offices, St. Louis, Mo.
Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pa., and First National Bank Bldg., San Francisco.
The Frink Company, 10th Ave. at 24th St., New York; 77 O'Farrell St., San Francisco
Sterling Bronze Co., Inc., 18 East 40th St., New York.

ELECTROLIERS
Northern Street Lighting Company, 389 Clementina Street, San Francisco.

ELEVATOR ENTRANCE DOORS
Dahlstrom Metallic Door Company, Jamestown, N. Y., Pacific Coast plant, 3350 East Slauson Ave., Los Angeles.

ELEVATORS—PASSENGER AND FREIGHT
Otis Elevator Company, Stockton and North Point, San Francisco.
Spencer Elevator Company, 166 Seventh St., San Francisco.
Westinghouse Electric and Manufacturing Company, First National Bank Bldg., San Francisco, general offices and works, Pittsburgh, Pa.

ELEVATOR SIGNALS, DOOR EQUIPMENT
Elevator Supplies Co., Inc., Hoboken, N. J.; San Francisco office, 186 Fifth St.
The Peelle Co., Brooklyn, N. Y., represented by Persons Dwan & Co., 534 Sixth Street, San Francisco.
Richards-Wilcox Mfg. Co., represented by Ewing-Lewis Company, Hunter-Dulin Bldg., San Francisco; 408 S. Spring Street, Los Angeles.

ENAMELS
Gold Seal Enamel—Bass-Heuter Paint Company, San Francisco, Los Angeles, Portland, Seattle.

EXIT DEVICES
Von Duprin, manufactured by Vonnegut Hardware Company, Indianapolis; sold by D. A. Pancoast Co., 605 Market St., San Francisco.

FENCES—WIRE AND IRON
Michel & Pfeffer Iron Works, Harrison and Tenth Sts., San Francisco.

FIRE EXTINGUISHING APPARATUS
"Lux" System, represented by Hough and Egbert, Inc., 519 Robert Dollar Building, San Francisco.

FIRE DETECTING APPARATUS
"Derby" and "Selex" Systems, represented by Hough and Exbert, Inc., 519 Robert Dollar Building, San Francisco.

FIRE ESCAPES
Michel & Pfeffer Iron Works, 1415 Harrison St., San Francisco.
Palm Iron & Bridge Works, Sacramento.
Western Iron Works, 141 Beale St., San Francisco.

FIRE SPRINKLERS—AUTOMATIC
Fire Protection Engineering Co., 407 Exchange Building, 369 Pine Street, San Francisco.
Grinnell Company of the Pacific, Fifth and Brannan Sts., San Francisco.

FIXTURES—BANK, OFFICE, STORE, ETC.
Home Manufacturing Company, 552 Brannan St., San Francisco.
Mullen Manufacturing Co., 64 Rausch St., San Francisco.
Pacific Manufacturing Company, San Francisco, Los Angeles, Oakland and Santa Clara.
The Fink & Schindler Co., 228 13th St., San Francisco.

FLOORS—CORK, LINOLEUM, ETC.
Congoleum-Nairn, Inc., D. N. & E. Walter & Co., San Francisco, and Broadway Department Store, Los Angeles.
The Paraffine Companies, Inc., San Francisco, Los Angeles, Oakland, Portland, Seattle.

FLOOR HARDENER
Master Builders Company, Mills Bldg., San Francisco; 426 So. Spring Street, Los Angeles; also Seattle, Portland and Spokane.

FLOORS—REDWOOD BLOCK
Redwood Block Floor Company, Bryant at 18th St., San Francisco.
Pacific Redwood Floor Company, 311 California St., San Francisco, and 420 Grant Bldg., Los Angeles.

FLOOR CLIPS
Bull Dog Floor Clip Co., 557 Market St., San Francisco and Hibernian Bldg., Los Angeles.

FLOORS—HARDWOOD
G. H. Brown Hardwood Lumber Company, 47th Avenue and East 12th Street, Oakland.
Inlaid Floor Company, 600 Alameda Street, San Francisco and 4067 Watts Street, Emeryville, Oakland.
"Perfection" Brand Oak Flooring, Arkansas Oak Flooring Co., Pine Bluff, Arkansas.
J. E. Higgins Lumber Company, San Francisco.
White Brothers, 5th and Brannan streets, San Francisco; 500 High Street, Oakland.
Cellized Oak Flooring, Inc., Memphis, Tenn. Represented by Geo. H. Brown Hardwood Company, Oakland.

FREIGHT ELEVATOR DOORS
The Peelle Co., Brooklyn, N. Y., represented by Persons Dwan & Co., 534 Sixth Street, San Francisco.

FURNITURE—OFFICE, SCHOOL, CHURCH, THEATER
The Fink & Schindler Co., Inc., 218-68 13th St., San Francisco.
Home Mfg. Co., 552 Brannan Street, San Francisco.
Mullen Mfg. Co., 64 Rausch Street, San Francisco.
C. F. Weber & Co., San Francisco, Los Angeles, and Phoenix, Ariz.

GENERAL CONTRACTORS
Spivock & Spivock, Hobart Building, San Francisco.

GLASS
Cobbledick-Kibbe Glass Co., 666 Howard St., San Francisco.

GRAVEL AND SAND
Coast Rock & Gravel Co., Hunter-Dulin Bldg., San Francisco.
Del Monte White Sand, Del Monte Properties Co., Crocker Bldg., San Francisco.

GYMNASIUM EQUIPMENT—LOCKERS, ETC.
Ellery Arms Co., 583 Market St., San Francisco.

HANGERS—RELIANCE—
Graham & Norton Company, 213 Minna Street, San Francisco.

HARDWARE
Vonnegut hardware, sold by D. A. Pancoast Company, 605 Market St., San Francisco.
Palace Hardware Company, 581 Market St., San Francisco.
Richards-Wilcox Mfg. Co., represented by Ewing-Lewis Company, Hunter-Dulin Bldg., San Francisco; 408 S. Spring Street, Los Angeles.

HARDWOOD LUMBER
J. E. Higgins Lumber Co., San Francisco.
G. H. Brown Hardwood Lumber Co., 47th Ave. at E. 12th Street, Oakland.
White Brothers, 5th and Brannan streets, San Francisco; 500 High Street, Oakland.

HEATING—COAL FURNACE
Montague Range & Furnace Company, 376 Sixth St., San Francisco.

HEATING—ELECTRIC
Wesix Electric Air Heaters, manufactured and distributed by Wesix Heater Company, Rialto Building, San Francisco.
Apex Air and Water Electric Heaters, Sandoval Sales Company, 115 Jessie Street, San Francisco.
Majestic Electric Appliance Co. (bathroom heater), 590 Folsom St., San Francisco.
Weir Electric Appliance Company, 26th and Adeline Streets, Oakland.

HEATING—STEAM
Warren Webster & Company, Sharon Bldg., San Francisco, and 306 Crocker St., Los Angeles.

HEATING CONTRACTORS
Alex Coleman, 706 Ellis St., San Francisco.
Gilley-Schmid Company, 198 Otis St., San Francisco.
Hateley & Hateley, Mitau Bldg., Sacramento.
Mangrum & Otter, 827-831 Mission St., San Francisco.
W. H. Picard, 5656 College Ave., Oakland.
Luppen & Hawley, 3126-J St., Sacramento.
William F. Wilson Co., 240 Fourth St., San Francisco.
James A. Nelson, Inc., Howard and Tenth Sts., San Francisco.
Scott Company, 243 Minna St., San Francisco.
Geo. A. Schuster, 4712 Grove St., Oakland.
Herman Lawson, 465 Tehama Street, San Francisco.

HEATING EQUIPMENT
E. A. Cornely, Inc., 1452 Bush Street, San Francisco.
Illinois Engineering Co., 417 Market St., San Francisco.
Warren Webster & Company, Sharon Bldg., San Francisco, and 306 Crocker St., Los Angeles.
James A. Nelson, Inc., Howard and Tenth Sts., San Francisco.
B. F. Sturtevant Co., Monadnock Bldg., San Francisco; Los Angeles, Portland, Seattle.

HOLLOW BUILDING TILE (Burned Clay)
Cannon & Co., plant at Sacramento; Call Bldg., San Francisco.
N. Clark & Sons, 112-116 Natoma Street, San Francisco; works, West Alameda, California.
Gladding, McBean & Co., 660 Market St., San Francisco; 621 S. Hope St., Los Angeles; 1500 First Ave. South, Seattle; 454 Everett St., Portland; 15th and Dock Sts., Tacoma, and 22nd and Market Sts., Oakland.
W. S. Dickey Clay Mfg. Co., San Francisco and Oakland.

HOSE
The American Rubber Mfg. Co., Park Ave. and Watts St., Oakland, Calif.

HOSE RACKS AND REELS
American Rubber Mfg. Co., San Francisco, Oakland, Los Angeles and Portland, Ore.

HOSPITAL SIGNAL SYSTEMS
Chicago Signal Co., represented by Garnett Young & Co., 390 Fourth St., San Francisco.

INCINERATORS
Kerner Incinerator Company, 450 Clementina Street, San Francisco.
The Goder, sold by M. E. Hammond, Mezzanine, Pacific Bldg., San Francisco.
Kewanee Boiler Co., 636 Mission Street, San Francisco.

INDUSTRIAL LIGHTING EQUIPMENT
Westinghouse Electric and Mfg. Co., East Pittsburgh, Pa., and First National Bank Bldg., San Francisco.

INSPECTIONS AND TESTS
Robert W. Hunt Co., 251 Kearny Street, San Francisco.

INSULATION
"Insulex" manufactured by Pacific Portland Cement Co., Hunter-Dulin Bldg., San Francisco, & 1200 Chapman Bldg., Los Angeles.
Western Asbestos Magnesia Co., 25 South Park, San Francisco.
American Hair and Felt Company, 1615 N. Ditman St., Los Angeles.

INSULATED WIRE
Hazard Insulated Wire Works, Wilkes-Barre, Pa., Russ Building, San Francisco, Seattle and Los Angeles.

Architects League of Hollywood

6040 Hollywood Boulevard
Hollywood, Calif.

PRESIDENT - - - - - - - - RALPH C. FLEWELLING
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CALIFORNIA GOES AHEAD

Pacific Builder and Engineer, Seattle

By adopting three laws, California has made important progress in both engineering and building construction. The state has adopted (1) a prequalification of bidders bill; (2) a contractors' license law, and (3) an engineers' registration law. The prequalification of bidders bill applies to both building and engineering construction and is discretionary rather than mandatory. The contractors' license law takes from a fraudulent contractor the right to do business in the state. Civil engineers will be registered after undergoing an examination before an examining board consisting of three engineers, each of whom shall have had 12 years active experience. Certificates of registration can be revoked by a two-thirds vote for causes set forth in the law. Certificates will be issued engineers now practicing without examination until June 30, 1930, providing applicant can show he has been a resident of California for one year immediately preceding and has practiced professional engineering for at least six years. Graduation from an approved engineering school shall count as four years' experience and each year spent in such a school shall count as one-half year experience.

CUTLER TWIN MAIL CHUTE

The Cutler Mail Chute Company announces in the advertising pages a "twin mail chute" designed to fulfill a need in buildings where large quantities of mail originate. Two or more chutes are provided, usually installed in pairs. By opening the chutes on alternate floors, danger of over-crowding and jamming is avoided. If necessary one chute may be cleared, cleaned or repaired while the service is maintained by the other without interruption.

The Cutler mail chute is handled in California by the Price Building Specialties Company, 683 Howard street, San Francisco, and the Continental Building Specialties Company, 1216 Hibernian Building, Los Angeles. Recent Cutler installations in Northern California include the Wm. Taylor hotel, 450 Sutter street, San Francisco; Financial Center Building, Oakland, and the Spazier Building, Monterey—the first mail chute installation, by the way, in the last named town.

OIL BURNER HAS ELECTRIC CONTROL

The S. T. Johnson Company announces that its electrically ignited full automatic oil burner, designed for use in homes, apartments and other types of public buildings, has been recently listed and approved to burn the cheaper grades of fuel oil by the Underwriters' Laboratories, an organization established and maintained by the National Board of Fire Underwriters.

C. H. Beebe, sales promotion manager of the S. T. Johnson Co., states that the new Johnson electrically ignited automatic oil burners have already demonstrated their ability to give economical, trouble-free, enduring satisfaction, as a result of rigid operating tests conducted by the company's engineering staff, long before and while the new burners were under test at the Underwriters' Laboratories.

Metal Furring, Lathing, Plastering
and Cast Stone Work on

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Everything in Plastering

354 Hobart Street, Oakland
Phone GL encourt 7400

CONCRETE CRIBBING

See full page advertisement in August issue
MASSEY CONCRETE PRODUCTS CORP.
Gen'l Off., Chicago. Pac. Off., Pac. Elec. Bld., Los Angeles

A & E 9—Gray

WHAT'S WHAT IN MATERIALS

WHO'S WHO AMONG CONTRACTORS

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KITCHEN EQUIPMENT
General Electric Refrigerator, L. H. Bennett, Rialto Building, San Francisco, and the George Belsey Company, Architects Building, Los Angeles.
James A. Nelson, Inc., Howard and Tenth Sts., San Francisco.
Mangrum Holbrook Company, 1235 Mission St., San Francisco.

LACQUERS
The Paraffine Companies, Inc., San Francisco, Los Angeles, Portland and Seattle.
Bass-Hueter Paint Company, San Francisco, and all principal Coast cities.

LATHING MATERIAL—WIRE, METAL, ETC.
Genfire Steel Co., Sheldon Bldg., San Francisco; Builders' Exchange, Oakland.
Pacific Materials Co., 444 Market Street, San Francisco.
Truscon Steel Co., Sharon Building, San Francisco.
Soule Steel Company, Rialto Building, San Francisco, and Los Angeles.

LAUNDRY MACHINERY AND EQUIPMENT
American Laundry Machinery Company, 921 Howard Street, San Francisco.
Troy Laundry Mach'y Co., Ltd., East Moline, Ill., and 951 Mission St., San Francisco.

LIGHTING FIXTURES, OUTLETS, ETC.
Westinghouse Electric and Mfg. Co., First National Bank Bldg., San Francisco; general offices and works, Pittsburgh, Pa.
The Frink Company, 369 Lexington Avenue, New York, and principal Coast cities.
The Frink Company, 10th Ave. at 24th St., New York; 77 O'Farrell St., San Francisco
Sterling Bronze Co., Inc., 18 East 40th St., New York.

LIME PRODUCTS
United States Lime Products Corp., San Francisco, Los Angeles, Portland, Ore.

LINOLEUM
Congoleum-Nairn, Inc., D. N. & E. Walter & Co., San Francisco, and roadway Department Store, Los Angeles.
William Volker & Co., 631 Howard St., San Francisco, and 2301 E. 7th St., Los Angeles.
The Paraffine Companies, factory in Oakland; office, 475 Brannan Street, San Francisco.
W. & J. Sloane, 216 Sutter Street, San Francisco.
Van Fleet- Freear Company, 557 Howard St., San Francisco, and 420 S. Spring St., Los Angeles.

LUMBER
G. H. Brown Hardwood Company, 1044 47th Ave., Oakland.
Pacific Mfg. Co., San Francisco, Oakland, Los Angeles and Santa Clara.
Santa Fe Lumber Co., 16 California St., San Francisco.
J. E. Higgins Lumber Company, 423 Sixth St., San Francisco.
Sunset Lumber Company, First and Oak Sts., Oakland.
White Brothers, 6tb and Brannan Sts., San Francisco, and 500 High St., Oakland.

MAIL CHUTES
Cutler Mail Cbute Co., represented by Price Building Specialties Co., 683 Howard St., San Francisco and Continental Building Specialties Co., 1216 Hibernian Bldg., Los Angeles.

MARBLE
American Marble Company, 25 Columbus Square, San Francisco.
Clervi Marble Company and Mosaic Co., 1721 San Bruno Avenue, San Francisco.
Ray Cook Marble Company, foot of Powell St., Oakland.
Joseph Musto Sons-Keenan Co., 535 N. Point St., San Francisco.
Vermont Marble Co., Coast branches, San Francisco, Los Angeles and Tacoma.
Tompkins-Kiel Marble Company, 505 Fifth Ave., New York; also Chicago, Philadelphia and San Francisco.

MASONRY ANCHORS
Steelform Contracting Company, Monadnock Bldg., San Francisco; Edwards & Wildey Bldg., Los Angeles.

METAL COVERED DOORS
Fire Protection Products Co., 1101 Sixteenth St., San Francisco.
Forderer Cornice Works, Potrero Ave., San Francisco.

MILLWORK
The Fink & Schindler Co., Inc., 218-68 13th St., San Francisco.
Pacific Mfg. Co., San Francisco, Los Angeles, Oakland and Santa Clara.
Sunset Lumber Company, First and Oak Streets, Oakland.
Lannom Bros. Mfg. Co., Fifth and Magnolia Sts., Oakland.
Atkinson Mill & Mfg. Co., 2985 Chapman Avenue, Oakland.
Chicago Lumber Company of Washington, 66th and 69th Aves and Spencer Street, Oakland.

MONEL METAL
"Inco" brand, distributed on the Pacific Coast by the Pacific Foundry Company, Harrison and 18th Streets, San Francisco, and Eagle Brass Foundry, Seattle, Wash.

OIL BURNERS
Quiet-May Automatic Oil Burner Company, 959 Natoma St., San Francisco.
Rayfield Automatic Oil Burner. Pacific Coast Distributors, E. A. Cornely, Inc., 1462 Bush St., San Francisco.
S. T. Johnson Company, 1337 Mission St., San Francisco; 940 Arlington St., Oakland; 1729 Front St., Sacramento, and 230 N. Sutter St., Stockton.
Vaughn-G. E. Witt Co., 4224-28 Hollis Street, Emeryville, Oakland.
W. S. Ray Mfg. Company, 170 Sutter St., San Francisco, and 2206 San Pablo Ave., Oakland.
Coen Company, 112 Market Street, San Francisco.
Wayne Home Equipment Company, Fort Wayne, Indiana, represented by Hill and Stoops, 4214 Broadway, Oakland, Calif.

ORNAMENTAL IRON AND BRONZE
Federal Ornamental Iron and Bronze Co., 16th St. and San Bruno Ave., San Francisco,
Michel & Pfeffer Iron Works, 1415 Harrison St., San Francisco.
Palm Iron & Bridge Works, Sacramento.

PAINTING, DECORATING, ETC.
The Tormey Co., 681 Geary St., San Francisco.
A. Quandt & Sons, 374 Guerrero Street, San Francisco.

PAINTS, OILS, ETC.
The Paraffine Companies, Inc., San Francisco, Los Angeles, Portland and Seattle.
Bass-Hueter Paint Company, San Francisco, Los Angeles, Portland, Seattle.
General Paint Company, Los Angeles, San Francisco, Oakland, Seattle, Spokane and Portland.

PANEL BOARDS
Drendell Electric & Mfg. Co., 1760 Howard St., San Francisco.
Frank Adam Electric Company, 340 Fremont St., San Francisco, and 1127 Wall Street, Los Angeles; general offices, St. Louis, Mo.
Westinghouse Elec. and Mfg. Co., First National Bank Bldg., San Francisco; general offices and works, Pittsburgh, Pa.

PANELS—HARDWOOD
White Brothers, 5th and Brannan Sts., San Francisco, and 500 High St., Oakland.

PANIC EXIT DEVICES
Von Duprin, manufactured by Vonnegut Hardware Company, Indianapolis; sold by D. A. Pancoast Co., 605 Market Street. San Francisco.

PARTITIONS—MOVABLE OFFICE
Dahlstrom Metallic Door Company, Jamestown, N. Y., Coast plant, 3350 E. Slauson Ave., Los Angeles
Pacific Mfg. Co., Monadnock Building, San Francisco; factory at Santa Clara.

PIPE—WROUGHT IRON
A. M. Byers Co., Pittsburgh, Pa., and Financial Center Bldg., Los Angeles.
Reading Iron Co., Reading, Pa., and Balboa Bldg., San Francisco.

PLASTER
"Empire," manufactured by Pacific Portland Cement Co., Hunter-Dulin Building, San Francisco, Portland, San Jose and Los Angeles.

PLASTER BASE
"Celotex," Western Asbestos Magnesia Co., 25 South Park, San Francisco.

PLASTER REINFORCING
Wickwire-Spencer Steel Company, Inc., 144 Townsend St., San Francisco.

PLASTERING CONTRACTORS
A. Knowles, Call Bldg., San Francisco.
MacGruer & Company, 266 Tehama Street, San Francisco, and Pacific Mutual Bldg., Los Angeles.

PLUMBING CONTRACTORS
Alex Coleman, 706 Ellis St., San Francisco.
Gilley-Schmid Company, 198 Otis St., San Francisco.
Hateley & Hateley, 1710 Tenth St., Sacramento.
Herman Lawson, 465 Tehama Street, San Francisco.
Luppen & Hawley, 906 7th St., Sacramento.
Scott Co., Inc., 243 Minna St., San Francisco.
Wm. F. Wilson Co., 240 Fourth Street, San Francisco.
Geo. A. Schuster, 4712 Grove St., Oakland.
W. H. Picard, 5656 College Ave., Oakland.

PLUMBING SUPPLY HOUSES
H. Mueller Manufacturing Company, 1072-76 Howard St., San Francisco.
Standard Pacific Fixtures, 349 Sutter St., San Francisco.
Clarence Drucker, manufacturers' representative, 307 Minna St., San Francisco.

PRESSED STEEL
Berger Manufacturing Co., 1120 Mission St., San Francisco.

PRESSURE REGULATORS
Vaughn-G. E. Witt Co., 4224-28 Hollis Street, Emeryville, Oakland.

PUMPING MACHINERY
Simonds Machinery Co., 816 Folsom Street, San Francisco; 520 East 4th Street, Los Angeles.

PUMPS—HAND OR POWER
Ocean Shore Iron Works, 558 Eighth St., San Francisco.
S. F. Bowser & Co., Inc., 425 Brannan St., San Francisco.

REFRIGERATORS
"General Electric," sold by the George Belsey Company, Architects' Building, Los Angeles; L. H. Bennett, Rialto Bldg., San Francisco.

REINFORCING STEEL
Soule Steel Company, Inc., Rialto Bldg., San Francisco, and Los Angeles.
Gunn, Carle & Co., Inc., 444 Market St., San Francisco.
Pacific Coast Steel Co., Hunter-Dulin Bldg., San Francisco.
United Alloy Steel Corporation, Canton, Ohio; Western Sales Office, Santa Fe Bldg., San Francisco.
Truscon Steel Company, Sharon Bldg., San Francisco.

ROCK AND GRAVEL
Coast Rock & Gravel Company, General office, Hunter-Dulin Building, 111 Sutter Street, San Francisco.

ROOF MATERIALS
El Rey Products Co., 1633 San Pablo St., Los Angeles; 960 7th St., San Francisco; 65 Columbia St., Seattle; 850 E. Taylor St., Portland.
Kraftile Company, office and factory at Niles; 55 New Montgomcry Street, San Francisco.
"Meltboid" and "Ruberoid," also "Pabco" 10 and 20 year roofs, manufactured by the Paraffine Companies, Inc., San Francisco.
Gladding, McBean & Co., 660 Market St., San Francisco; 621 S. Hope St., Los Angeles; 1500 First Ave. South, Seattle; 454 Everett St., Portland; 15th and Dock Sts.,

More than 300,000 owners and not one has spent a single dollar for repairs or service!

THIS RECORD STANDS ALONE

..we challenge comparison!

SO far not one owner of a General Electric Refrigerator has had to pay a single dollar for repairs or service. It is General Electric's answer to those who ask "Is electric refrigeration out of the experimental stage?"

The first people who bought these refrigerators when they were introduced more than two years ago, bought them on faith. They knew that if General Electric engineers worked for fifteen years to perfect a product, that product would have outstanding advantages. Their faith has been justified.

Architects and builders, who specify and use General Electric Refrigerating Equipment, are assured of the utmost in quality and reliability. Ask your secretary to write the nearest distributor for the General Electric Handbook of Electric Refrigeration, a complete manual on the subject which not only describes the qualifications of adequate refrigeration but gives plans and specifications for domestic, commercial and apartment refrigerators. The handbook will be sent you without charge.

GENERAL ELECTRIC Refrigerator

L. H. BENNETT
Rialto Building, San Francisco
Northern California and Nevada Distributor

The GEORGE BELSEY *Company*
Architects Building, Los Angeles
Southern California Distributor

Display Rooms and Dealers in all Principal Cities and Towns

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WHO'S WHO AMONG CONTRACTORS

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Tacoma, and 22nd and Market Sts., Oakland.
N. Clark & Sons, 112-116 Natoma Street, San Francisco; works, West Alameda, California.
W. S. Dickey Clay Mfg. Co., 604 Mission St., San Francisco.
Jones Brothers Asbestos Supply Co., 600 Second St., San Francisco.
Johns-Manville Corporation of California, 159 New Montgomery St., San Francisco.
United Materials Co., Sharon Building, San Francisco.
Western Asbestos Magnesia Company, 25 South Park, San Francisco.

RUGS AND CARPETS
W. & J. Sloane, 216 Sutter St., San Francisco.

SAFETY TREADS
Pacific Materials Co., 444 Market St., San Francisco.
Price-Teltz Company, 683 Howard St., San Francisco.

SASH CHAINS
American Chain Company, Inc., Bridgeport, Conn., and 425 Second St., San Francisco.
The Smith & Egge Mfg. Co., P. O. Box 1040, Bridgeport, Conn.; 506 American Bank Bldg., Los Angeles.

SCAFFOLDING FOR CONTRACTORS
Steelform Contracting Company, Monadnock Bldg., San Francisco; Edwards & Wildey Bldg., Los Angeles.

SEATING—SCHOOL, THEATER, CHURCH
Home Manufacturing Company, Inc., 552 Brannan St., San Francisco.
C. F. Weber & Co., San Francisco, Los Angeles, Phoenix, Ariz.; Reno, Nevada.

SELF-RELEASING FIRE EXIT DEVICES
Von Duprin, manufactured by Vonnegut Hardware Company, Indianapolis; sold by D. A. Pancoast Co., 605 Market St., San Francisco.

SHADES
William Volker & Co., 631 Howard Street, San Francisco; 2301 East 7th Street, Los Angeles.

SHEATHING AND SOUND DEADENING
Western Asbestos Magnesia Co., 25 South Park, San Francisco.

SHEET METAL WORKS
Forderer Cornice Works, Potrero Ave., San Francisco.

SHOW CASES
Home Manufacturing Company, Inc., 552 Brannan St., San Francisco.
Mullen Manufacturing Company, 64 Rausch St., San Francisco.

SOUND ABSORBING TREATMENT
Johns-Manville Corporation, 159 New Montgomery St., San Francisco.

SIGNALING & PROTECTIVE SYSTEMS
Garnett, Young & Co., 390 Fourth St., San Francisco.

STEEL FABRIC
Wickwire - Spencer Steel Corporation, 144 Townsend St., San Francisco.
Soule Steel Company, Rialto Bldg., San Francisco, and Los Angeles.

STEEL FORMS
Steelform Contracting Company, Monadnock Bldg., San Francisco; Edwards & Wildey Bldg., Los Angeles.

STEEL TANKS
Ocean Shore Iron Works, 55 Eighth St., San Francisco.

STEEL LUMBER
Genfire Steel Co., Sheldon Bldg., San Francisco; Builders' Exchange, Oakland.

STEEL SASH
Bayley-Springfield solid steel sash, sold by Pacific Materials Co., 444 Market St., San Francisco.
"Fenestra" Solid Steel Sash, manufactured by Detroit Steel Products Co., factory sales office, 526 Hunter-Dulin Bldg., San Francisco.
Berger Manufacturing Co., 1120 Mission St., San Francisco.
Michel & Pfeffer Iron Works, 1415 Harrison St., San Francisco.
Truscon Steel Company, 74 New Montgomery St., San Francisco.

STEEL SASH AND DOORS
W. C. Lea, 653 South Clarence St., Los Angeles.

STEEL—STRUCTURAL
Bethelhem Steel Company, Pittsburg, Pa., Matson Building, San Francisco; Pacific Building, Los Angeles; L. C. Smith Building, Seattle; American Bank Building, Portland, Oregon.
Golden Gate Iron Works, 1541 Howard St., San Francisco.
Judson Pacific Company, C. F. Weber Bldg., Mission and Second Sts., San Francisco; shops, San Francisco and Oakland.
McClintic - Marshall Company, 621 Florida Street, San Francisco.
Herrick Iron Works, 18th and Campbell Sts., Oakland.
Pacific Coast Eng. Co., foot 14th St., Oakland
Pacific Coast Steel Co., Hunter-Dulin Bldg., San Francisco.
Palm Iron & Bridge Works, Sacramento.
Schrader Iron Works, Inc., 1247 Harrison St., San Francisco.
Western Iron Works, 141 Beale Street, San Francisco.

STONE
Indiana Limestone Company, Tribune Tower, Chicago, Ill., and Crocker First National Bank Bldg., San Francisco.

STORE FRONTS
Zouri Drawn Metals Company, Chicago Heights, Illinois. (Zouri Company of California, 1208 Howard St., San Francisco.)

STORE FURNITURE
Berger Manufacturing Co., 1120 Mission St., San Francisco.

STREET LIGHTING EQUIPMENT
Westingbouse Electric and Mfg. Co., East Pittsburgh, Pa., and First National Bank Bldg., San Francisco.

STRUCTURAL STEEL SHAPES
Bethlehem Steel Company, Matson Building, San Francisco; Pacific Finance Building, Los Angeles; L. C. Smith Building, Seattle; American Bank Building, Portland, Oregon.

SWITCHES AND SWITCHBOARDS
Drendell Electrical & Mfg. Co., 1345 Howard St., San Francisco.
Westinghouse Elec. & Mfg. Co., First Nat. Bank Bldg., San Francisco; general offices and works, Pittsburgh, Pa.

TELEPHONES—AUTOMATIC, PRIVATE
Automatic Electric Inc., Chicago, Ill.; 1112 Pacific Finance Bldg., Los Angeles.

THERMOSTATS FOR HEAT REGULATION
Johnson Service, Milwaukee, Wis.; Rialto Building, San Francisco.

TERRA COTTA
N. Clark & Sons, 116 Natoma Street, San Francisco.
National Terra Cotta Society, 230 Park Avenue, New York, N. Y.

TILE—RUBBER, CLAY, CORK ETC.
Rossman Corporation of California, 49 Geary Street, San Francisco, and Architects' Bldg., Los Angeles.
N. Clark & Sons, 112-116 Natoma Street, San Francisco; works, West Alameda, Cal.
Congoleum-Nairn, Inc., D. N. & E. Walter & Co., San Francisco, and Broadway Department Store, Los Angeles
Gladding, McBean & Co., 660 Market St., San Francisco; 621 S. Hope St., Los Angeles; 1500 First Ave. South, Seattle; 454 Everett St., Portland; 15th and Dock Sts., Tacoma, and 22nd and Market Sts., Oakland.
Kraftile Company, factory at Niles; 55 New Montgomery Street, San Francisco.
Mangrum-Holbrook, Inc., 1235 Mission St., San Francisco.
United States Rubber Co., 300 Second St., San Francisco, and 923 Los Angeles St., Los Angeles, Calif.

UNDERFLOOR DUCT SYSTEM
Johns-Manville Corporation, 159 New Montgomery St., San Francisco.

VALVES—PIPES AND FITTINGS
Clarence Drucker, Manufacturers' Agent, 307 Minna Street, San Francisco.
Grinnell Co., Fifth and Brannan Sts., San Francisco.
Mueller Company, 1072 Howard Street, San Francisco.
Sloan Valve Company, Chicago; E. C. Whalen, 954 Western Pacific Bldg., Los Angeles; W. J. Driscoll, 482 Monadnock Bldg., San Francisco; E. C. Fallein, U. S. National Bank Bldg., Denver; S. D. Cochran, L. C. Smith Bldg., Seattle, Wash.

VARNISHES
Bass-Hueter Paint Company, San Francisco, Los Angeles, Portland, Seattle.
The Paraffine Companies, Inc., San Francisco, Los Angeles, Portland and Seattle.
Hill, Hubbell & Co., Los Angeles, Oakland, Portland, Seattle and 160 Fremont St., San Francisco.
General Paint Company, Los Angeles, San Francisco, Oakland, Seattle, Spokane and Portland.

VENETIAN BLINDS
C. F. Weber & Company, 601 Mission St., San Francisco.

VENTILATING EQUIPMENT
B. F. Sturtevant Co., Monadnock Bldg., San Francisco; Los Angeles, Portland and Seattle.

VENTILATORS
"The Panelouvre," sold by M. E. Hammond, Pacific Bldg., San Francisco.

VITREOUS CHINAWARE
Standard - Pacific Plumbing Fixtures, 349 Sutter St., San Francisco; 919 W. Seventh St., Los Angeles; 1301 Fifth Ave., Seattle Wash.; 48 Fifth St., Portland, Ore.

WATERPROOF CEMENT
Victor Hydro-plastic waterproof cement, manufactured by Southwestern Portland Cement Co., 356 S. Spring St., Los Angeles.

WALL BEDS, SEATS, ETC. (See Beds).

WIRING SYSTEM
General Electric Company, San Francisco and all principal Coast cities.

WATER COOLERS
General Electric Refrigerator, L. H. Bennett, Rialto Building, San Francisco, and the George Belsey Company, Architects Building, Los Angeles.

WATER HEATERS
Apex Electric Hot Water Heaters, distributed by Sandoval Sales Co., 115 Jessie St., San Francisco.
Pittsburgh Water Heater Co. (gas), 478 Sutter St., San Francisco.
Ruud Heater Co. (gas), 245 Mason St., San Francisco.
Wesix Heater Company, Rialto Building, San Francisco.

WATERPROOFING
Johns-Manville Corporation, 159 New Montgomery St., San Francisco.
Master Builders Company, Mills Bldg., San Francisco; 426 So. Spring Street, Los Angeles, also Seattle, Portland and Spokane.
The Paraffine Companies, Inc., San Francisco, Los Angeles, Oakland, Portland, Seattle.

WATER SOFTENERS AND FILTERS
The Permutit Company, 440 Fourth Ave., New York City, and Balboa Bldg., San Francisco.

WATER SUPPLY SYSTEMS
Kewanee Water Supply System—Simonds Machinery Co., agents, 816 Folsom St., San Francisco; 520 East Fourth Street, Los Angeles.

WINDOW SHADES
William Volker & Co., 631 Howard Street, San Francisco; 2301 East 7th Street, Los Angeles.
W. & J. Sloane, 216 Sutter St., San Francisco.
D. N. & E. Walter & Co., 562 Mission St., San Francisco.

WINDOWS—STEEL, REVERSIBLE, ETC.
Campbell and Voigtmann Metal Windows, distributed by Fire Protection Products Company, 1101 Sixteenth St., San Francisco.
Crittall Casement Window Company, Detroit, Mich. Badt-Falk & Co., 74 Montgomery Street, San Francisco. F. T. Crowe & Co., 216 Walker Bldg., Seattle. R. H. Hoskins, 510 Hyde Bldg., Spokane. McCraken-Ripley Co., 61 Albina Avenue, Portland. F. T. Crowe & Co., 1177 Dock Street, Tacoma, Wash. Crittall Casement Window Co., 504 Union Insurance Bldg., Los Angeles.
Hauser Window Co., 1362 Harrison St., San Francisco.
Detroit Steel Products Co., Detroit, Mich.; Hunter-Dulin Building, San Francisco and Pershing Square Building, Los Angeles.
W. C. Lea, 653 South Clarence St., Los Angeles.

WIRING SYSTEM
Westinghouse Electric and Manufacturing Company, First National Bank Bldg., San Francisco; general offices and works, Pittsburgh, Pa.